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# FACTS AND OBSERVATIONS

RELATIVE TO

## THE FEVER

COMMONLY CALLED

## P U E R P E R A L.

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BY

JOHN ARMSTRONG, M.D.

PHYSICIAN TO THE FEVER INSTITUTION OF LONDON.

---

To communicate what I have tried, and leave the rest to others for farther enquiry, is all my design in publishing these papers. *Sir Isaac Newton's first Advertisement to his Optics.*

---

SECOND EDITION.

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1819.

THE HISTORY OF THE

REIGN OF

CHARLES THE FIRST

BY

JOHN BURNET

TO  
JOHN RAMSAY, M.D.

OF NEWCASTLE-UPON-TYNE.

---

MY DEAR SIR,

ALLOW me, thus publicly, to return you my thanks for the encouragement which you have given me in the prosecution of this little work, and the approbation you have expressed of the principles and practice that it contains; and, having now brought it to a conclusion, I take the liberty of dedicating it to you, as a testimony of my high respect for your professional talents and private virtues. With the sincerest wishes for your happiness I am, dear Sir,

Your obliged and faithful friend,

JOHN ARMSTRONG.

*December 18, 1813.*

*Just published,*

**PRACTICAL ILLUSTRATIONS**

OF THE

**SCARLET FEVER,**

**MEASLES, AND PULMONARY CONSUMPTION;**

WITH

**OBSERVATIONS ON THE EFFICACY OF SULPHUREOUS  
WATERS IN CHRONIC COMPLAINTS.**

**BY JOHN ARMSTRONG, M.D.**

**PHYSICIAN TO THE FEVER INSTITUTION OF LONDON.**

The Second Edition.

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**PRACTICAL ILLUSTRATIONS**

OF

**TYPHUS FEVER;**

**BY THE SAME AUTHOR.**

Second Edition, with Additions.

## P R E F A C E.

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**T**HE former edition of this treatise was offered to the medical public as the first of an intended series of practical illustrations of febrile diseases, drawn from clinical facts and anatomical investigations. Since then the promise has been partly redeemed by the publication of two volumes, in which an endeavour was made to describe and explain the effects of simple excitement, inflammation, and congestion on the various functions and tissues of the body; but as, in the mean time, the puerperal fever has been repeatedly brought under my review, it became necessary, that the particulars latterly acquired should be embodied with those formerly published, in order to fix the work on a broader and more substantial basis.

The exercise of common sense on the objects of perception, and what is called the inductive philosophy, seem to be very nearly the same thing; for plain unbiassed men, in all the practical arts, naturally advance from facts to inferences, the method here pursued. If this dissertation should prove the mean of lessening the ravages of the puerperal fever, its utility must be attributed to the advantages which I have derived from the labours of my predecessors, to the progressive state of medical science, and particularly to the cases which have been presented in the course of my practice. The principal lights, if such they may be deemed, have been thus conveyed to me, and I can merely claim the office of reflecting them upon the important subject which occupies the following pages.

23, Southampton Row, Russell Square,

January 1, 1819.



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# FACTS AND OBSERVATIONS

RELATIVE TO

## THE FEVER

COMMONLY CALLED PUERPERAL.

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**G**REAT discrepancy of opinion still exists among writers of celebrity, respecting the nature and treatment of the fever usually denominated puerperal. It was the conviction, that this difference had given rise to much doubt and indecision, on points of vital importance, which induced me, towards the close of the year 1813, to illustrate something like general principles to guide the practitioner at the bedside; and as attentive observation since that period has only tended to strengthen my confidence in those principles, I am induced, in this revised edition, to attempt their more complete establishment, by an ampler detail of facts, re-

specting this disease under its epidemic and sporadic forms.

The puerperal fever prevailed epidemically in the counties of Durham and Northumberland, in the year 1813, and, among other places, at Sunderland, where I then resided. This complaint, as it was presented to me, generally occurred about twenty-four or thirty hours, and seldom later than four days, after delivery. It did not seem to depend upon difficulty of labour; for in most of the women in whom it occurred, parturition was remarkably easy, and the placenta was separated after a proper interval, and without more than usual pain. Nor was the lochial discharge, *before* the attack, in any way apparently affected. The disease was mostly ushered in by very slight shiverings, or rigors, by oppression at the præcordia, by vomiting, retching, or nausea, and by considerable anxiety of mind. When the shiverings or rigors abated, which were often very short, the skin became universally hot and dry, and the thirst urgent. The tongue was much paler than usual, and appeared as if it had been recently rubbed, or dusted with a very fine whitish pow-

der; in some few instances, however, it was tolerably clean and moist about the edges, and this more especially where vomiting had occurred. The matter thrown up consisted of the ingesta, mixed with mucus, and yellow or greenish bile. The pulse was seldom less than 120 in the minute, and mostly rather full, tense, and vibrating, or very small, sharp, or somewhat wiry, when the excitement had fully emerged.

The countenance at this period assumed an inexpressible anxiety, the lips were pale and parched, and there was a kind of livid stripe under each eye; but the cheeks were flushed with a circumscribed redness, like that which is observed in the true hectic. The respiration soon became hurried, and the patient often sighed heavily, was restless, and turned from one part of the bed to another, or lay upon her back, and constantly moved her head from side to side, or suddenly lifted up her hands, and threw them down again with some force, upon the bed-clothes. Commonly a little before, or at the very commencement of the shiverings or rigors, there was in the lower part of the belly more or less pain; occasionally it was very

acute, shooting in the direction of Poupart's ligament, and through to the back and loins. In some instances, the pain was deep and obtuse, and more confined to one particular part; but in every case, it was aggravated by pressure in and about the hypogastric region. However limited in its extent at first, it afterwards gradually spread over the surface of the abdomen, which became tender to the touch, tumid, and tense.

The secretion of the milk was nearly suspended soon after the attack, the breasts became flaccid, and the mother, so lately all solicitude about her child, now seldom inquired after it,\* and indeed seemed almost insensible to those things which before most deeply interested her feelings. *After* the full development of the disease, the lochial discharge either disappeared, or only issued in small quantity, and was very dark and uncommonly offensive. The urine

\* Dr. John Clarke has stated this indifference of the mother about her child as a common symptom. Consult page 110, of his *Practical Essays, on the Management of Pregnancy and Labours, and on the Inflammatory and Febrile Diseases of Lying-in-women*. Second edition. London. 1806.



was scanty and high coloured, but generally passed without much pain. The bowels were constipated and flatulent, and in two instances something similar to the globus hystericus was observed.\* Though all the patients were restless in the extreme, seldom obtaining a moment's sleep, yet they never complained of violent pain in the head, but frequently of an uncomfortable aching and lightness there, with some tenderness about the eye-balls. The eyes, when the fever was at its acmé, seemed rather brighter than natural, and the pupils were slightly dilated. The whole train of symptoms already described may, in a practical view, be called the first stage of the disease—the stage in which alone a fair opportunity is offered to the practitioner of saving the life of the patient.

This state of febrile excitement, in most of the cases which lately occurred, seldom continued longer than fifty hours, and in some it terminated much sooner. When the disease

\* Willis enumerates distensions resembling hysteric passions among the symptoms of puerperal fever. Consult an abridgement of his works printed, with the allowance of the college, by T. Basset, T. Dring, C. Harper, and W. Crook, in 1692. See page 632 and 634, in particular.

was not impeded at this period, it passed into what may be termed the second and last stage, which, towards the close, was marked by an exceedingly great prostration of the vital and voluntary powers.

But the first approaches of this fatal stage were most clearly indicated by the rising of the pulse, which then generally ranged from between 140 and 160 in the minute, and was very soft and compressible; it feebly struck the sides of the artery, and gave the idea that the heart was labouring hard to keep up the force of the circulation. About twelve hours before death, the pulse became thready, fluttering, and irregular, and so rapid as not to be correctly numbered. For some time after the accession of the second stage the skin remained at an increased temperature and dry, but then the patients almost constantly complained of chilliness. The cheeks were alternately flushed and deadly pale, the eyes lost their lustre, the pupils were much dilated, and a kind of dewy perspiration stood upon the face and forehead. The pain gradually and entirely receded from the abdomen, which became much more distended, and it usually happened that dark,

slimy, and very fetid stools were discharged from that time onward. The thirst was unceasing; and when any liquid was offered, the patients hastily seized the vessel, and glutted down its contents, as if they had previously been expiring for want of drink. The tongue for the most part was brown, or rather black and parched, and had aphthæ upon it, which even appeared about the edges of it at an early period. In one very bad case, however, the tongue continued clean and moist to the last; but there was an almost perpetual vomiting throughout the second stage, though only a slight nausea occurred in the beginning, and very little vomiting in the rest of the first stage. Indeed vomiting was always more urgent in the last than in the first stage of the disease, and the matter then thrown up very much resembled coffee-grounds, and was offensive to the smell.\* The teeth and gums were crusted with dark, slimy sordes, and the breath was disagreeable, as if it had been tainted with mercury. Throughout the complaint there was a short teasing

\* Compare this with that appearance of the stools which Mr. Wolfe, Surgeon, of Chester-le-Street, considers in another part of this work as one of the diagnostics of the disease.

cough, but this was more especially the case in the last stage, when the respiration grew very short, feeble, and frequent, and the *alæ nasi* were thrown into perpetual motion.

Soon after the advancement of the second stage, the patients began to talk incoherently, they frequently made attempts to get out of bed, and occasionally, after having lain still a short time, suddenly started, and spread out their hands, which were then very tremulous, as if to ward something off that was approaching them. About this time, two patients became gradually collected, complained of no pain whatever, looked and spoke cheerfully, and flattered themselves that they should soon be well: this illusion continued till within an hour or two of their death, rendering them completely insensible to their real situation; and even to friends, though warned by the medical attendant, their death was at last unexpectedly sudden. But in three other unfavourable cases, the light wanderings of the mind which took place at an early period of the second stage, were not succeeded by a state of serenity, but by a low muttering delirium, speedily followed by a

stupor, in which the patients lay with their eyes half-closed, and could not be roused from it, but by loud speaking, upon which they started as from a disturbed sleep, uttered some vague and hasty expressions, and then sank into the same condition as before. A few hours before death, in these cases, some dark scattered petechiæ appeared, and the skin was in that peculiar state which accompanies the last stages of tetanus, and the brain fever of intoxication,\* the whole surface felt soft, relaxed, and clammy, and the hand glided almost as smoothly over it as if wet by soap and water. In the above three instances, also slight stertorous breathing occurred near the termination of the disease, and, last of all, general though not violent convulsions.

This complaint, when not arrested, generally ran its course in a few days. Soon after death, the bodies became rather livid and very offensive to the smell, and the abdomen immensely dis-

\* The disease which, in my work on typhus, is called a peculiar disorder of drunkards, and which Dr. Sutton has denominated *Delirium Tremens*, in his valuable publication. See the *Edinburgh Medical Journal*, for July, 1813.



tended. It is to be regretted that no examination could be obtained, as morbid dissection might perhaps have thrown some additional light on the nature of the disease. In the course of practice, when apprehending that advantage might be derived from anatomical investigation, I have frequently had to lament that it could not be obtained, especially in cases fatal during child-bed. Though one cannot but respect those feelings which venerate the dead, yet it would be well for society, if the consideration of the general good were permitted to operate so as to overcome, on such occasions, the private sympathies of our nature. And this is the more to be desired, for till it can be accomplished, medical science must necessarily be retarded upon those very points respecting which it is most needful that it should rapidly advance. But to return from this digression, which the importance of the subject has led me to make :

At Sunderland the first case of the puerperal fever happened in January, 1813, but apparently under a sporadic form; and the few cases which appeared throughout the winter assumed the



same character, the majority being so mild as to yield to brisk purging and a spare regimen. In the spring of the year, however, the disease became much more formidable in its character, and about this period, five patients fell victims to its violence, in rapid succession. In all, forty-three cases occurred from the 1st of January to the 1st of October, when the disease ceased; and of this number, forty were witnessed by Mr. Gregson and his assistant Mr. Gregory, the remainder having been separately seen by three accoucheurs. It may seem, and actually is remarkable, that so large a proportion of the cases should have occurred in the practice of two gentlemen, but in this respect they were by no means singular. At Chester-le-street, about nine miles distant from Sunderland, several cases occurred to Mr. Wolfe, while Mr. Nelson, junior, of the same place, only met with a solitary instance now and then. Dr. Ramsay told me, that one accoucheur lost seven patients in a town not far distant from Newcastle-upon-Tyne; and Mr. Fife stated, that the disease was confined to the patients of that practitioner, and in the preceding year, in like manner, to those of one midwife in Newcastle itself. In the beginning

of May, 1813, it appeared in the neighbourhood of Alnwick, and prevailed for some time afterwards; but in that town it was limited to the practice of two gentlemen, Mr. Wilson and Mr. Stephenson, though one midwife, who had a considerable increase of business, had not a case of the disease. Another midwife, however, who had been about two days in the house of a lady dying of the puerperal fever, went into a district about eight miles distant from Alnwick, and there delivered several women, nearly the whole of whom were attacked with the puerperal fever. My friend Dr. Ayre of Hull, too, informed me, that the disease had been confined to the practice of two accoucheurs at different places in Yorkshire; and I could accumulate evidence to show, that this was further the case in other quarters of the county of Durham, and even much more to the northward. In this particular, therefore, the epidemic strikingly coincided with that noticed by Dr. Gordon many years ago in Aberdeenshire: for he has distinctly mentioned, that the disease occurred to certain individuals, while it was entirely unknown in the practice of others living in the same neighbourhood; and he naturally enough

attempts to account for a circumstance so singular by supposing, that the practitioners conveyed the contagion from patient to patient.

From all the circumstances which I have been able to collect, it appears, that the puerperal fever, above described, existed in fact for more than two years in different parts of the counties of Durham and Northumberland. In the year 1811, it arose in the neighbourhood of Stockton-upon-Tees, afterwards in the town of Newcastle-upon-Tyne, in Sunderland, near Chester-le-street, then in the vicinity of Newcastle-upon-Tyne, and, lastly, in and about Alnwick. In its course it assumed two principal varieties, one accompanied with the symptoms of simple peritonitis, and the other, though marked by a less evidently declared inflammation of the abdomen, was connected with a more overpowering and oppressive fever from the commencement. Those who have cautiously noticed the various characters which abdominal inflammations assume will be easily able to comprehend how the type of the fever may be modified by the seat and extent of the inflammation; and what seems actual debility in the beginning of such affections, is only

a greater degree of general oppression from a more intense inflammation, how much soever that inflammation may be masked by the change which has taken place in the nervous system. In both the forementioned varieties, the puerperal fever had the same general characters in the last stage; but the first variety was less rapid than the second, though both went on to a fatal termination, unless active remedies were promptly applied at an early period. During its prevalence, a great many women died of this disease; and this was so much the case in some parts of Northumberland, that I was credibly informed, every patient perished who was not bled in the beginning. In a few cases, and only in a few, the puerperal fever had a more protracted course, and a more obscure character, answering exactly to the description of some which Dr. Ramsbotham of London had previously met with, and which he mentioned to me in an excellent letter, respecting the nature and treatment of this complaint. In these cases the pulse at the commencement ranged from about 100 to 120 in the minute; there was at first little affection of the tongue, little affection of the belly, and that only complained

of when the hand was pressed forcibly upon the abdomen for some time. The mind was perfectly collected, and the countenance for some days not altered ; but the patients were liable to feel some uneasiness in the head, and especially about the orbits of the eyes. The symptoms insidiously advanced, the pulse acquired a greater velocity, the pain of the belly increased, and after a few days' continuance of abdominal tension, the countenance began to change, and the mind to wander. Dr. Ramsbotham justly remarks, that this form of the disease is often considerably advanced before it can be satisfactorily detected ; and he considers it the more dangerous on this account, and because prompt and powerful means, from the apparent mildness of the symptoms, do not appear to be so early demanded.

Puerperal fever is mostly divided into epidemic and sporadic, and in both the abdominal affection has been considered the essential part. It shall afterwards be shown, that this arrangement is not sufficiently comprehensive, though in these pages, increased heat and abdominal inflammation are regarded as pathognomonic signs of



what authors mean by the puerperal fever; and from what has been said, it will be evident, that in the most rapid cases this inflammation is acute, and sub-acute in the more protracted. Yet it has appeared to me, that the causes of what is called *the* puerperal fever are more varied than most authors allow; and the effect resulting from these causes is the same, on account of the previous and peculiar state of the abdomen, whether the disease be sporadic or epidemic. Notwithstanding the many discoveries in chemistry, we are yet unacquainted with those properties of the atmosphere, which are supposed to have an agency in the production of contagious and epidemic diseases. But that this matter may still be open to investigation, I have given some account in the Appendix of the states of the atmosphere while the epidemic above described was most predominant, and also of those diseases which appeared at the same time.

The succeeding observations will be of a more desultory and general nature, and though intended to include most particulars of importance relative to the diagnosis, prognosis, and prevention, they are especially designed to exhibit the



method of treatment which has been so successfully employed in this disease in private practice ; and at the close of the work some cases will be given to demonstrate, that the same method is applicable to what has been denominated the hospital puerperal fever.

## DIAGNOSIS.

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**I**F in a therapeutic view, as shall be afterwards shown, the puerperal epidemic should be thought *essentially* different from the ordinary peritonitis of lying-in women, the distinction will, most assuredly, be made at the hazard of life. The admirers of nosological minuteness, however, may contend that there are circumstances in the rise, progress, and sequel of the epidemic, which sufficiently mark it from the more simple peritonitis; but I can assert, with some degree of confidence, that if these circumstances be allowed to influence the practice very materially, they will be found exceedingly fallacious at the bed-side, however plausible they may seem in books. These, then, being the firm convictions of my mind, puerperal fever shall only be particularly distinguished from milk-fever, after-pains, inflammation of the uterus, and that ephe-

mera called the weed, to which child-bed women are very liable.

The milk-fever is known, principally, by throbbing, irritation, and enlargement of the breasts, and by the pain being confined to the mammæ, during the continuance of the febrile symptoms ;—whereas in the puerperal fever, the pain begins and continues in the abdomen, while the breasts, for the most part, are neither distended nor uneasy, but commonly more flaccid than natural. Besides, there is considerably more lassitude and weariness, a more urgent nausea or sickness, and a quicker pulse in the commencement of the puerperal than of the milk-fever.

In after-pains, at certain times, pressure can be borne without uneasiness, but in the puerperal fever the belly is sore to the touch, and pressure always aggravates the pain. In the first, there is no accession of fever, nor an accelerated pulse, the pains are grinding like those of labour, and, like them, they are succeeded by intervals of complete ease ;—on the contrary, in the last, there is an accession of fever marked

by an uncommon rapidity of the pulse, and the pain is without intermission.

Simple hysteritis may be known by a burning, throbbing pain, fulness, and oppressive weight in the region of the uterus, by frequent calls to make water, which is passed with great pain and difficulty, by the uterus itself feeling hard, hot,\* and enlarged, and being exquisitely sensible when pressed upon, by violent pains darting through to the back, and down to the groin and thighs, by an increase of pain from raising the trunk erect, and by the soreness and fulness being more confined to the lower part of the abdomen throughout the attack than in the puerperal fever. When the above symptoms occur with increased heat, thirst, quick pulse, sickness of the stomach, and suppression of the lochia,

\* The heat, I believe, is always sensibly increased to the touch in an inflammation of the uterus; and in some instances I have found it very pungent. This increase of heat indeed has not escaped the observation of Lommius :—

Porro si uteri cervix inflammationem sustinet, id quod frequentius fieri dixi, abdomen dolet, ipsumque uteri os admoto digito durum occurrit, *fervidum*, atque præclusum. *Medicin. Observ. lib. ii. p. 235.*

there can be no question as to the seat of the disorder. Nevertheless, however plain these distinctions may appear upon paper, or in lectures, it is certain from dissections, that hysteritis often, very often constitutes a part of the abdominal inflammation attendant upon puerperal fever.\* Nor will this seem at all surprising, when we reflect that the uterus, after the separation of the placenta, is in fact a kind of recently wounded member, to which inflammation may be readily imparted, especially if the lochial discharge, as frequently happens in the puerperal fever, be diminished or suppressed. When simple hysteritis does take place, Denman judiciously observes, that it is much less dangerous, particularly after parturition, than an equal extent of inflammation in any other of the abdominal viscera, because the uterus, as a kind of outlet, admits of a return of the lochial discharge, which may lessen, and even remove the

\* When the uterus becomes inflamed, it takes place almost always under the same circumstances, viz. very soon after parturition. The inflammation is sometimes confined to the uterus itself, or its appendages, but the peritonæum in the neighbourhood is most commonly affected, and frequently over its whole extent. Baillie's Morbid Anatomy, p. 362.

disease. The last mentioned author too remarks, that not one instance has been observed of any woman, who had an abscess in the breast, being attacked with the puerperal fever ; nor any who, in consequence of their labour, had such an affection of the bladder, as to occasion a suppression of urine.\* My own experience tends to confirm the first, and to refute the last of these remarks ; for I have never known a case of this disease to occur where the breast suppurated, but I met with one which took place under a suppression of urine, though the circumstance is probably rare.

The ephemera called the weed is ushered in by strong rigors, which, commonly in less than an hour, are followed by heat, thirst, and general excitement, the whole train of symptoms being terminated in twenty-four or thirty hours by profuse perspiration. The absence of abdominal irritation is generally sufficient to prevent the possibility of mistaking this disease for the puerperal fever.

\* See an Introduction to the Practice of Midwifery, by Thomas Denman, M. D. Fourth Edition. London, 1805. Vol. ii. p. 477, 478.



Severe griping pains, occurring in the child-bed state, with fever and tenesmus, have been considered by some as the characteristics of enteritis, but I cannot help suspecting, that these nice discriminations are more specious than useful.

Having thus endeavoured to distinguish puerperal fever from milk-fever, after-pains, hysteritis, and the ephemera, I shall now be more at liberty to pursue the consideration of the disease itself, and may, perhaps, hope that the inexperienced student will be prevented from confounding it with the forementioned complaints.

The puerperal fever, especially under an epidemic character, sometimes creeps on in a very insidious manner, the abdominal inflammation being masked by an oppressive languor, and a diminished sensibility of the nervous system; yet, in such cases, the disease may generally be detected by the great frequency of the pulse, by the quickened respiration, by flatulence of the stomach, and by the patients shrinking when pressure is applied over the abdomen, though they previously made little or no complaint of

pain in that part. In those cases of the puerperal fever which commence with uneasiness in the head, the patients sometimes complain of little or no pain in the belly for two or three days after the first attack; but the breathing is always quicker, the pulse more frequent, the abdomen rounder and fuller, and the stomach more flatulent than natural. Forcible pressure on the belly is one of the best tests of the abdominal inflammation; and when it is made, the practitioner should always watch the countenance of the patient, for that will undergo an immediate change if the pressure give uneasiness; an uneasiness which some patients strive to conceal when they are aware that evacuant measures would follow its acknowledged existence. But even if pressure on the belly should induce no change of the countenance, still if the pulse should be rapid, and the respiration anxious, it is safest to treat the case as if abdominal inflammation openly existed; for I have known some instances where this treatment was omitted, and dissection after death discovered traces of inflammation both in the brain and abdomen. Sometimes in the puerperal fever, as in typhus, there is an universal soreness of the

flesh, a condition of the surface which may be extremely embarrassing ; for if the practitioner should at first press his hand over the abdomen, the patient would shrink much ; but if he tried pressure in other parts, she would still do the same, so as to leave doubts as to the presence of visceral inflammation. In such cases, however, the brain and spinal cord are commonly more or less inflamed, of which the soreness of the surface is symptomatic ; but if the patient lie upon her back with the feet drawn upwards, and if stretching them suddenly downwards give pain, and if the breathing be hurried, and the stomach flatulent and irritable, abdominal inflammation may be presumed also to exist. Thus it will appear, that two opposite states of the nervous system may occur in the puerperal fever, one in which the sensibility is diminished, and another in which it is increased ; and without due care on the part of the medical examiner, both may contribute to mislead him as to the actual state of the abdominal viscera.

My friend, Mr. Wolfe of Chester-le-Street who has paid great attention to the puerperal fever, considers the appearance of the alvine

evacuations as one of the best diagnostics. Whenever, therefore, febrile symptoms take place, with pain and soreness of the abdomen, after parturition, he immediately gives the patient a brisk purge; and if, when the contents of the lower part of the bowels have been dislodged, the stools should be of a dark colour, somewhat resembling coffee-grounds, very copious, of the consistence of thick gruel, and of a fetid smell, he is then confirmed in his opinion, that he has to encounter an affection requiring more than ordinary activity of treatment, and subsequent events have always fulfilled his predictions.\*

As an additional proof of the justness of the above remarks, I have, on inspecting the evacuations, generally found them dark, slimy, fetid, and unexpectedly large. Indeed, excepting that they are commonly mixed with hard pieces of scybala, they have neither the ordinary smell, consistence, nor colour of natural fecal stools; but seem to be composed, for the most part, of some excrementitious matter,

\* Consult Mr. Wolfe's communication in the Appendix.

somewhat like thin, dirty yellow paint, thrown out in considerable quantity in the course of the disease.\* It seems to me highly probable, that, in many cases of the puerperal fever, the villous coat of the bowels as well as the liver are affected: in some instances, that affection may consist in a mere change of secretion, but in others it appears to amount to inflammation; and in one example this had clearly occurred, for after death the lining of the intestines and liver exhibited the marks of having been inflamed. The mucous membranes are very liable to inflammation in many fevers, and they have a sort of continuous sympathy, as Bichat observes, by which they reciprocally affect each other: but as inflammation of their surfaces is often attended with but little uneasiness, it is too frequently overlooked; and in this way the increased secretion from the inflamed lining of the bowels is frequently mistaken for simple diarrhoea in acute fevers.

In many instances, it is remarkable how very

\* Quæ excernuntur nigra sunt, et interdum perquam mali odoris. Hippocrates; as translated by Hulme, in his Treatise on Puerperal Fever.



indifferent patients are to surrounding objects, and this indifference is of such a nature, as not only to extend to objects in general, but to render them inattentive even to the suckling of their infants. This last mentioned circumstance has been imputed by some to the suppression of the lacteal secretions, but this is certainly not the cause, since I have seen it in the very commencement of some cases, in which the secretion of the milk was but little affected. Whatever may be the cause of this curious phenomenon, it indicates an extraordinary power of disease, which can in a few hours paralyse the maternal affections. In many cases, if the apartment be ever so well cleaned and ventilated, and the linen daily changed, there is still an offensive smell about the bed of the patient; and in the first stage, particularly of the more severe cases, a peculiarly striking expression of the face, which I have not seen in any other complaint. The countenance manifests alarm and solicitude, as if the person affected was the subject of two different emotions at the same time; at least I am not able to convey a more definite conception of the physiognomy soon after the attack of the disease.



In touching upon the diagnosis, it may not be irrelevant to remark, that in the epidemic which has been delineated, the state of the lochia was various. In by far the greater number of cases which took place at Sunderland, they were gradually diminished or suppressed *after* the full developement of the fever; but in those cases which occurred to Mr. Wilson, of Alnwick, the lochia were at no period either diminished or suppressed, while in the examples which Mr. Stephenson, of the same place, encountered, they were mostly diminished or suppressed. Again, in the patients which Mr. Wolfe of Chester-le-Street attended, this discharge was sometimes obstructed, and at other times not deficient in quantity; and were it necessary I could quote some of the best authors to prove, that the lochia are affected in some cases, but not in others. Yet so far as my inquiries have gone, and they have been extensive among observant practitioners, I should be authorized to state, that the lochia are most frequently diminished or suppressed in the progress of the puerperal fever; but whenever this happens, their diminution or suppression can be clearly traced as an effect, and

therefore ought never to be confounded as a cause of the disease. For my own part, and I have been consulted in a great variety of puerperal cases of one kind or other, I have never been able distinctly to trace the origin of any febrile disease, to the diminution or suppression of the lochia, which have always appeared to me as the mere consequences, not as the occasions of fever, though some insist on a contrary view of the subject.

From separate copies of his lectures, it appears, that Dr. Hamilton, junior, the distinguished professor of midwifery in Edinburgh, maintains that the lochial discharge is not suppressed in cases of the true puerperal fever; and partly upon this assumption, he attempts to distinguish it from other affections of child-bed, which resemble it most. But I have shown, in the puerperal fever which prevailed epidemically in the north of England, that the lochia were sometimes suppressed, and sometimes not at all deficient; and the same was the case in the diseases which Dr. Gordon and Mr. Hey have described, not to mention other instances which might be adduced to prove the

variable state of this discharge in the puerperal fever. The distinction, therefore, which Dr. Hamilton has endeavoured to establish must fall to the ground, since, so far from being supported, it is directly opposed by a host of facts. From these remarks it will not be presumed, that I mean to arraign this deservedly eminent individual for the open expression of his opinion; but being confident, that this opinion is alike fallacious and dangerous, I feel it my duty to protest against it, as the high authority whence it proceeds may have powerful influence over those ignorant of the subject. Even the late ingenious Dr. John Clarke, anxious as he was to draw a line of demarcation between puerperal peritonitis, and what he called the low child-bed fever, completely failed in the attempt; for no unprejudiced man can read his descriptions without inferring, that the latter was an aggravated degree of the former, which the appearances after death, detailed by this author, render almost indisputable. Yet this classification, however defective, was an approach towards the truth, and has powerfully assisted the pathological researches of those who rather regard facts than speculative opinions.

But, to prosecute the diagnosis—abdominal pain, or soreness, quick anxious breathing, unusual frequency of the pulse, increased temperature, anorexia, prostration of the vital and voluntary powers, with an unnatural condition of the excrements, are among the chief pathognomonic signs of the puerperal fever; but in some cases of an acute kind, especially where the head is affected, the abdominal disorder may be indistinctly declared for some time, and therefore all the collateral circumstances of the case should be taken into the account, in forming the diagnosis. As for that modification of the puerperal fever, which is attended with an obscure, or rather with a sub-acute species of abdominal inflammation, it may be best recognized by quickness of the pulse, anxiety of the respiration, fulness and roundness of the abdomen, flatulence of the stomach, and uneasiness of the belly on forcible pressure, with an evident change induced in the countenance at the same time. Besides, the patient generally lies, as if by instinct, upon her back, with her knees elevated; a position which both relaxes the abdominal muscles, and keeps the bed-clothes from pressing upon the surface of the

belly; and even in such instances, as before intimated, if the patient be directed to stretch her legs suddenly, and fully down, some uneasiness will be occasioned in the belly, and thereby some alteration in the expression of the face, from the tension which this change of position produces in the abdominal muscles. In concluding this topic, I beg leave most earnestly to advise practitioners of midwifery to visit their patients very frequently, for several days after delivery, and narrowly to observe the state of the pulse, tongue, stomach, bowels, respiration, countenance, and skin: for such attentions will generally enable them to perceive the most insidious approaches of the puerperal fever; and it ought never to be forgotten, that it is in the provident anticipation of disease, the medical man most strikingly shows the force of his understanding, and the efficacy of his art.



## PROGNOSIS.

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**F**ROM the days of Hippocrates\* to the present time, the puerperal fever has been esteemed imminently dangerous ; indeed, some writers have not hesitated to place it next to the plague in the catalogue of diseases. Though I perfectly agree with the common opinion, as to its danger, and am convinced that part of its fatality may be fairly ascribed to its natural tendency, yet I am fully persuaded that it may generally be arrested in the beginning, and that much of its fatality has been occasioned by our great caution, timidity, and indecision in treating it. In truth, it is an extraordinary malady, and requires extraordinary remedies, rapid as well as powerful in their effect ; for, in the most severe examples, if the first twenty hours from

\* Si mulieri pregnantī fiat in utero erysipelas, lethale est.

HIPPOCRATES.



its marked appearance be lost in doubt and hesitation, no human efforts, generally speaking, can afterwards atone for the error. On the contrary, if these golden moments be seized without delay, and an active treatment steadily pursued, it is my firm belief, that there are few febrile disorders of the more serious kind, which afford the physician a fairer chance for the successful exercise of his functions.

Notwithstanding, it would only be proper that the physician should always give a guarded prognosis in this disease, and more especially when it is epidemical ; since it has happened in this, as in every other epidemical fever, that cases have proved fatal, in defiance of the most prompt and judicious measures.

Dr. Foster has observed, that there is often a treacherous remission about twenty four hours after the attack, and this, also, is often the case about the end of the third day. Whenever, indeed, any remission of pain takes place, the professional attendant must neither be betrayed into a sanguine declaration of speedy recovery, nor into a supineness of practice ; because

under such an apparent abatement, the disease sometimes secretly and rapidly advances, and even when that is not the case, it sometimes returns with greater violence than before.

It has been stated, by some authors, that the pain in general suddenly leaves the belly before puerperal fever ends unfavourably. But, from an almost hourly attendance upon many cases, I am inclined to believe that their assertions on this point have been too hastily made, and that the pain, in the majority of examples, gradually abates, and, in some, even continues distressing to the last. Occasionally, however, there can be no doubt but that there is a surprisingly sudden transition from the greatest suffering to the most perfect ease; and when this happens with a cold, clammy skin, and a rapid, small, fluttering pulse, it must be looked upon as a fatal sign—as the last illumination of life.

It seems agreed by all accurate observers, that the earlier the attack the greater is the danger, and that those whose powers of feeling are much diminished from the beginning, and who consequently complain but little, generally

sink under the pressure of the disease. On the other hand, an excess of sensibility is always to be dreaded, for I have had opportunities of remarking, that those patients seldom recover who are tremblingly alive to every surrounding impression.\* It is well known that unmarried women do not recover so well as married ones, the mental irritation necessarily attendant upon their situation considerably increasing the febrile excitement, rendering them extremely restless, and thus augmenting the danger.

The slightest approach to mental confusion or delirium is an inauspicious sign, at any period of the complaint. An agitated countenance, with a hurried, unconnected manner of speaking, constant sighing attended with a tossing of the arms, pain and oppression of the chest, visual deceptions, imaginary strange sounds and voices, muttering and stupor, are among the most unfavourable symptoms. Dr.

\* Women of delicate constitutions, very susceptible, and continually agitated by hopes and fear, are, of all others, the most subject to it, and recover with the greatest difficulty. Practical Observations on the Child-bed Fever, &c. by John Leake, M.D. Fifth edition. vol. ii. p. 43.

Foster, on examining the bodies of two women, who apparently died of the puerperal fever, discovered that the omentum in both was lacerated near the middle, almost entirely across from side to side.\* It is, however, readily acknowledged, that such lesions are exceedingly uncommon, yet when they do happen, as they place the patient beyond the power of art, and as nothing but actual dissection can prove that they do not exist in any case, we should, in every instance, be the more cautious in passing a prognosis.

Irreparable derangements in the structure and functions of the abdominal viscera are often made in the course of twenty-four hours :† the time, therefore, which the disease has continued, ought materially to influence the opinion to be delivered. In one robustly-formed

\* The Principles and Practice of Midwifery. By Edward Foster, M.D. late Teacher of Midwifery in the City of Dublin: Edited by James Simms, M.D. 1781. Consult p. 297.

† When the patient had been ill for a longer space than twenty-four hours, before I was sent for, I generally found that the disease was no longer in the power of art. A Treatise on the Epidemic Puerperal Fever of Aberdeen, by Alexander Gordon, M.D. p. 14.

young woman, whom I was called to visit about three years ago in the last stage, the term occupied from the commencement to the fatal close of the fever did not exceed forty-eight hours ; and it is certain, from indubitable facts, that it sometimes destroys as rapidly as the plague itself.\* By referring to the case of Martha Watson, in the appendix, it will be found, that a patient may be saved, by vigorous treatment, so late as thirty hours after a violent attack, though it is well known that such occurrences are rare ; yet this assurance should never make any of us desist from strenuous exertions, however late we may be called in, as the most surprising recoveries may now and then be effected by a steady perseverance in proper means.

At any time when the disease has existed more than twenty hours, rigors are highly alarming. But, in some cases, there is a mor-

\* As far as my experience goes, the same degree of fever would not destroy, in the same length of time, a patient not in the puerperal state. Indeed, scarcely any fever is known, except the plague, which has killed so rapidly. Dr. John Clarke, p. 140, 141.

Also, consult the Treatise of Dr. Gordon, above quoted, p. 74.



bid sensibility of the surface to external impressions, which must not be confounded with the chills denoting the approaches of gangrene or suppuration, as it may always be distinguished from them, by the pulse remaining unaltered in force and frequency. Almost immediately after copious venesection, patients sometimes become cold, faint, and shivery. These symptoms, however, need not alarm the attendant, provided the operation has been opportunely performed, for he will then almost invariably find them gradually give way to a general warmth and moisture of the surface, succeeded by a reduction of the pulse; yet if, on the other hand, the lancet has been indiscreetly used, when the last stage of collapse was about to commence, or had actually commenced, nothing can be more dangerous than the continuance of the coldness, faintness, and shivering, especially if attended by frequent sighing, and a very feeble and irregular pulse.

An open state of the belly immediately before delivery, generally tends to mitigate the severity of an early attack, and a diarrhoea coming on in the first stage sometimes carries off



the disease; whereas, on the contrary, costiveness is always an unfavourable circumstance, increasing, in no inconsiderable degree, the difficulty of the cure. An experienced friend of mine lately attended a patient whose bowels had not been loosened for more than a week before her labour. The case was unusually violent, and resisted every remedy.

The state of the respiration, pulse, stomach, and skin must, in a great measure, regulate the prognosis. When the respirations are short, feeble, and amount to about fifty in the minute; when the pulse becomes extremely weak and compressible, and rises above one hundred and sixty; when there are frequent vomitings of a coffee-coloured fluid, an increase of abdominal distension, repeated shiverings, and a universally cold damp skin, the case may be pronounced desperate. On the contrary, when the respiration grows easy, deep, and slow; when the pulse comes down, and ceases to be variable; when the stomach retains the food and medicine, the stools continue copious, the tension and pain of the belly abate; when the skin breaks out into a warm sweat, the tongue

becomes clean and moist, and especially when fresh discharges of the lochia, and secretion of the milk take place, the symptoms fully authorize a favourable opinion.

Dr. Denman has stated, that a subsidence of the abdomen, after copious stools, and with a moist skin, is a fortunate alteration for the patient, but that this circumstance without evacuation, and a dry skin, threaten the utmost danger.\* But I have seen some cases fatal where a diarrhoea came on in the last stage with a cold moist skin, and a subsidence of the abdominal tension. To this prognosis, therefore, of the judicious Denman, exceptions do exist. As for a diarrhoea it is often a most formidable symptom, when it occurs in the last stage; as it is then frequently connected with structural derangement of some of the abdominal viscera, and also with an universal collapse, which it rapidly increases. And indeed in the first stage a diarrhoea is in general no further favourable, than that it tends to lessen some intestinal or hepatic excitement, of which it is the product; and on this account it ought never to be re-

\* See vol. ii. p. 469, of the edition before quoted.

strained at that period, as it is a most certain sign, that additional evacuations are requisite.

Hippocrates has observed, that in the most dangerous attacks of fever, patients generally lie upon their backs. This is certainly the position which is very often assumed throughout the puerperal fever; and it is commonly favourable, when patients can turn themselves and lie upon the side, though I have seen some few instances where this was done a few hours before death. In health there is a certain relation between the respiration and pulse, the number of the former being on an average about twenty, and that of the latter somewhere near seventy in the minute. Any striking deviation from this relation, which is nearly as one of the former to three of the latter, is generally an unfavourable symptom in acute diseases; and we shall accordingly find, that this relation is sometimes completely destroyed in the worst cases of the puerperal fever. But in giving a prognosis we ought never to rely entirely on one symptom, but take a comprehensive view of the whole; so that in separating the favourable from the unfavourable signs, we may be able to perceive

to which side the weight of probabilities inclines.

If the pulse can be kept under 120 in the minute for the first week, the patients will generally do well, provided the respiration be not much disturbed. But if the pulse should continue quick after the abdominal symptoms have disappeared, and if there should be evening exacerbations, deep-seated suppurations may be dreaded. In general those patients recover the most rapidly, and are the least liable to secondary diseases, in which depletion has been early and copiously used; but where half measures have been employed, and where the patients have had lingering recoveries from this fever, other diseases are very apt to supervene. Of these diseases peripneumony seems to be one of the most common, from the almost general assent of authors; but under such circumstances I have seen consumption to arise, indurations of the mesenteric or other glands, or chronic inflammation in some internal or external part of the body. Before delivering his prognosis, therefore, the practitioner should endeavour to anticipate what may happen in the

future, from a review of present or past symptoms ; and in this, as in every other opinion, he should declare what he feels to be morally right, and be above the mummary and mystery of selfish cunning. As far as regards the feelings of friends, the prognosis is a point always deserving of the most serious consideration on the part of the practitioner ; and I may add, that it is also of the utmost importance to himself, for I never knew a medical man retain his popularity long, who was unguarded in the delivery of his prognosis. There is a principle in the human mind which perpetually prompts it to pry into the future : even to this principle much of the public inquiry respecting the sick may often be referred ; and people are apt to attribute the highest degrees of sagacity to him, who from present appearances can predict future events.

## PREVENTION.

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WHEN puerperal fever is epidemical, the accoucheur should make it a point of duty to have the apartments of the women whom he is engaged to attend properly cleaned and ventilated before confinement; to prevent nurses and other persons who have been with those affected, from waiting upon or going near any patient about to be delivered; to pay the most scrupulous regard to the cleanliness of his own person, using daily ablutions of the whole body, and frequent changes of linen and dress.\* Though it be denied by some authors, that the puerperal fever is always contagious, yet most seem to agree, that it is so under some of its modifications; and, therefore, it is obviously better

\* I had evident proofs that every person, who had been with a patient in the puerperal fever, became charged with an atmosphere of infection, which was communicated to every pregnant woman who happened to come within its sphere. Gordon, p. 63, 64.



to err on the side of precaution, than to pursue an opposite line of conduct.

As anxiety of mind materially contributes to produce this disease, it should always, if possible, be timely allayed. But when the puerperal fever is known to be prevalent, the greatest attention and address will be requisite to remove the solicitude of pregnant women ; for such is the constitution of human nature in general, that they are irresistibly drawn to the consideration of the existing calamity, though conscious that not to think of it would be best in their condition. If, therefore, an alarm be abroad, the practitioner must, above all things, aim to inspire the apprehensive patient with a complete confidence in his powers of prevention ; nor must he ever use doubtful language upon the subject, since, if he once betray the least fear, as to her security, from that moment no faith will be placed in his professions.

Sedentary employments, too stimulating, or too spare a diet, night watchings, fashionable dissipations, and irregular habits of every kind, seem to predispose pregnant women to puer-

peral fever.\* A nutritious diet, early rising, and regular exercise in the open air, are among the most efficacious means for preserving health,† and inducing an easy and safe labour. It did not escape the penetrating sagacity of Lycurgus,‡ the law-giver of ancient Sparta, that simplicity of diet, and an habitual action of the body during pregnancy, greatly favoured the security of the mother and the strength of the offspring. And I believe, that if these simple truths were more generally known and followed, there would be much less fatality in parturition.

As the retention of fecal matter in the intestines often greatly assists in the production of this disease, so the timely exhibition of mild purgative medicines may be reckoned one of the best preventives. It is proverbial among child-

\* *Mulieribus præ cæteris animalibus hæc contingunt, et præsertim delicatis, vitamque umbratilem et mollem degere assuetis : ut et iis quæ teneræ valetudinis sunt, et facile in morbos labuntur. Harv. Exercit. de Partu.*

† *Verum ad sanitatem tuendam, si ante cibum corpora moderate exerceantur, mirum in modum prodest, at contra quies et otium diuturnum iis maximo nocumento est. Galen de Euchymia et Caco-chymia.*

‡ Consult Plutarch's Life of Lycurgus.

bearing women, that castor oil is an excellent remedy for lessening the dangers incident to delivery ; and I have little doubt, that when the bowels have been kept open by it or any other suitable purgative, the occurrence of fever has frequently been prevented. Many pregnant women suppose their bowels to be in a proper state when they have only one scanty evacuation in the day ; so that, in the course of pregnancy, an extraordinary accumulation of feces takes place, as I have repeatedly witnessed. The professional person may be much deceived, who trusts to the reports of his patients in this respect. Nothing less than frequent inspections of the alvine evacuations can be at all satisfactory, since their quantity and appearance alone can regulate the extent to which purgatives should be used as preventives. As a general rule, to which, however, there may be exceptions, never less than one very copious, natural stool should be procured in the day, throughout the whole term of gestation. In a most sensible letter to me on the puerperal fever, Mr. Fife, of Newcastle-upon-Tyne, justly observes, that pregnant women are very apt to deceive themselves respecting the state of the bowels,

some neglecting the use of medicine altogether, while others, from a fear of doing harm, content themselves by taking now and then a little magnesia, which they imagine has done enough when it produces a partial loose evacuation, and thus very often they lay the foundation of much future distress and danger. When a puerperal fever raged epidemically at Aberdeen, Dr. Gordon found, that a purging bolus of calomel and jalap given in a morning, the day after delivery, either prevented the disease entirely, or seemed to render the attack quite manageable.\* Yet upon the whole, I am decidedly inclined to prefer the milder purgatives as preventives, but especially castor oil, which completely unloads the bowels, without occasioning any constitutional irritation; and this cannot always be said of the drastic purgatives, which, when there is no fever present, often excite much general irritation, and even sometimes a degree of tenderness over the abdomen, and thus now and then may probably prepare the way for what they were intended to prevent. Under the influence of a purgative, women, after delivery, are easily chilled by an exposure to

\* See Gordon's Treatise, p. 100.

cold; and as chilliness may induce an attack, a bed-pan should generally be used, or, at all events, exposure to cold avoided. It is, I know from personal inquiries, the custom of some nurses to get the patient out of bed after delivery as soon almost as the accoucheur leaves the house; and without his knowledge to change her linen, considering neither the risk which may be induced from cold, nor that from hæmorrhage by such an imprudent exposure. Before leaving his patient, therefore, the accoucheur should give the most particular directions, equally stating what ought, and what not to be done, till his next visit.

During labour, care should be taken not to irritate the os uteri by frequent and unnecessary examinations; neither ought the placenta to be extracted too hastily, for much mischief may result from such a procedure;\* hæmorrhages may immediately follow, the uterus itself may receive some serious injury; or it may contract upon a small portion of the placenta left attached to its

\* Rude treatment of the os uteri, and a violent or hasty separation of the placenta, will often give rise to this disease. Denman, vol. ii. p. 461.



interior, any of which things may act as an exciting cause in a person predisposed to this fever. My respected friend, Mr. Ferguson, of Bishopwearmouth, who has been in a most extensive practice of midwifery, for about forty years, has hardly ever seen puerperal fever succeed uterine effusions merely arising from a defect of contractility in the uterus, but has often seen it follow those hæmorrhages which arose from an injury sustained by that organ. This is an important fact, and perhaps may, in part, tend to explain some of the existing discrepancies of authors, some of whom assert that floodings occasion,\* and others that they prevent, the disease;† at all events it suggests the propriety of using prophylactic measures, where large discharges have taken place after difficult labours, or in consequence of violence suffered by the uterus. It is not, I hope, presuming beyond my province, when I admonish accoucheurs in

\* Mr. White on the Management of Pregnant and Lying-in Women, p. 219—Dr. Manning on Female Diseases, p. 371.

† Those gentlemen themselves know best on what foundation their opinion is grounded; but, for my part, I found that large uterine effusions invariably prevented the epidemic Puerperal Fever which I have described. Gordon, p. 111.



general not to let the pressure of business induce them to extract the placenta too soon ; nothing but an eruption of blood, threatening the very life of the patient, can justify its hasty and forcible separation. On the other hand, the after-birth, for obvious reasons, must not be allowed to remain too long. Dr. Hamilton, the judicious professor of midwifery in the University of Edinburgh, declares, in his lectures, that it cannot be left, with perfect safety, longer than an hour in the uterus, after the expulsion of the child.\* From extensive inquiries which I have made amongst practitioners in midwifery, it would certainly seem, that hæmorrhage during delivery does in certain subjects predispose them to attacks of the puerperal fever ; and it was an observation of the late Dr. Clark, of Newcastle upon Tyne, who had seen numerous examples of this disease, that uterine hæmorrhage had preceded the majority of the attacks. What is called arterial re-action, an increase in

\* As the life of the patient is never exempt from danger till the after-birth be extracted, no practitioner ought on any pretence to leave a woman even for a short space of time till that circumstance have taken place. Hamilton's Treatise on the Management of Female Complaints, fifth edition, p. 188.

the action of the heart, with an increase of the animal heat, is very liable to follow large losses of blood; and when we consider, that those losses must have weakened the system, it will not appear surprising that the subsequent reaction should lead to abdominal inflammation in peculiar habits. Probably different men may have been led to different conclusions, respecting the influence of uterine hæmorrhage, from the various modes of treatment afterwards adopted: those perhaps who pursued an antiphlogistic plan, having rarely seen this disease to supervene; and those who pursued a different method, having often marked its occurrence. Considerable mischief is often produced by attempts to raise the prostrate powers at once by the exhibition of diffusible stimulants: but where life is not in jeopardy from the collapse, it is always best to endeavour to raise the system gradually into vigour by mild means; for under this plan we shall generally avoid any secondary affections of excitement, whereas, under the other, those affections will not be uncommon.

If cold has been applied to any great extent in uterine floodings, and a considerable re-ac-

tion of the heart and arteries, with some degree of fever, is likely to succeed their suppression, the practitioner must be upon his guard, and not permit his patient to take strong drinks and food by way of replenishing the system ; but he must insist upon a cooling regimen, and administer aperients till the inflammatory threatenings disappear. After severe, and especially after instrumental labours, two or three visits should be daily paid to the patients for some time by the professional attendants, that they may have proper opportunities of enforcing their directions, and of perceiving the very first approaches of any fever that may supervene ; but indeed, a spare diet, cleanliness, ventilation, quietness, and an occasional purge, will generally obviate danger. Dr. Denman notices that women are certainly not so often attacked with this fever after difficult labours, because of the particular care with which they are then managed, whereas, after easy ones, they are more unguarded.\* That the body will bear a great deal without serious consequences is certain, when precautionary measures are early adopted

\* See his work, vol. ii. p. 463.

and steadily pursued. I was once consulted where, from inflammation, the os uteri during pregnancy had completely and firmly united by a sort of ligamentous substance; so that the accoucheur had to make an incision there by the knife before the child could be removed from the uterus; and yet, in this remarkable case, the woman had an exceedingly good recovery, a strictly antiphlogistic plan having been enforced for some time after the operation.

Celsus,\* and other writers since his day, have recommended patients to be treated, for a certain time after delivery, as if they actually laboured under an inflammatory affection, or had received some wound in an important part of the body. In reality, no advice can be more judicious or necessary, however it may be disregarded in ordinary practice. The species of

\* Reliqua curatio talis esse debet, qualis in inflammationibus, et in his vulneribus, quæ in nervosis locis sunt, adhibetur. A. Corn. Celsus. Glasguz: Excudebat Gulielmus Bell, MDCCCLXVI. Vide p. 357.

Women in child-bed ought to be managed not only as persons sorely wounded, but as having gotten a feverish indisposition. Willis, p. 636.

inflammatory diathesis which exists throughout the whole period of pregnancy,\* together with the throes of parturition, bring the system into a state verging upon febrile excitement, which no doubt would be attended with considerable danger, were it not for the secretion of the milk, and the flowing of the lochia. If, therefore, we would lessen the risk of fever in general, and of the puerperal fever in particular, the child should not be kept from the breast longer than twelve hours from the time of its birth; we should enjoin the strictest antiphlogistic regimen, and administer mild purgatives now and then, especially during the first four or five days, as that appears to be the term in which there is the greatest tendency to febrile disorders.† Every thing calculated strongly to excite should be withdrawn, such as noise, light, and heat. And at the same time that the room should be kept at a moderate temperature and properly venti-

\* Hunter affirms that the blood is always sized in breeding women. See a Treatise on the Blood, Inflammation, &c. By the late John Hunter. In two volumes. London, 1812. Vol. ii. p. 69.

† The pernicious custom of binding the body too tight ought also to be avoided; as it will produce difficulty of breathing, head-ach, and oppression at stomach. Leake, p. 139.



lated, we should be particularly careful to prevent currents of cold air from passing over the bed of the patient, for the reasons already mentioned.\*

The use of cordials cannot be too positively and repeatedly prohibited, since it is not uncommon for nurses to give the patients whom they attend a cup of burnt brandy, or caudle after delivery, and to add to the sago or gruel, which always ought to be taken in the simplest form, large portions of strong wine. And it is melancholy to think that such things are sometimes done expressly against the commands of medical practitioners. The deceptions practised by those persons, commonly called old experienced nurses, are hardly credible. In the presence of the physician, they will seem very desirous to carry all his orders into effect; but in his absence, either accommodate them-

\* There is nothing so great an enemy to a woman in travail, especially to her whose child is drawn away by violence, as cold. And thereof cometh many grievous accidents, as hysterical suffocation, painful fretting of the guts, fevers, and other mortall diseases. Johnson's Translation of the Works of Ambrose Parey. Printed in 1649. See p. 615.



selves to the whims of the capricious, or, appealing to their long experience, persuade the timorous patient to take a diet very different from that directed; and thus, between the hypocrisy of the one, and the weakness of the other, the deceit is successfully carried on, unless danger or accident should reveal it. The lives of many women, and the reputations of many accoucheurs have, I am fully confident, been sacrificed in this way. Whenever, therefore, professional men detect any thing like duplicity in the conduct of nurses, they should act in the most authoritative manner, immediately insisting upon their dismissal; for it may be regarded as a moral rule, to which there are few exceptions, that persons who once deliberately commit a dishonourable action can not be trusted with safety a second time.

Mismanagement in nursing is not confined to the higher, but extends to the middle and lower ranks of life, in which it has become an almost established custom to give distilled spirits and a flesh diet to women in child-bed.\* Besides, in

\* I have diligently observed that an over-hasty eating of flesh, or of rich food, has oftentimes brought these fevers. Willis, p. 636.

the first week of confinement, the rooms are crowded with a succession of friends and visitors, who generally converse, over a large fire, until a late hour at night. As improprieties of this nature are often followed by disagreeable, and sometimes by fatal consequences to the sick, they cannot be too publicly and frequently exposed.

If, notwithstanding every possible precaution, there should be the slightest accession of fever after parturition, and especially if the puerperal fever be prevalent at the time, or there be any circumstances in the patient which predispose to its attack, we ought to be extremely attentive; as any fever may pass into the puerperal, particularly where great anxiety and irritability exist, because the main force of the general excitement will be liable to fall upon the abdominal viscera, from the peculiar state of the vessels there at that period.\*

\* After labour, the cavity of the abdomen is in part debilitated, from the great change it has undergone in passing from a state of great tension to a state of great flaccidity; and if the woman catches cold, or receives infection, the mischief falls on the abdomen, as on the weaker part. *The Anatomy of the Absorbing Vessels of the Human Body.* By William Cruikshank. Second edition, p. 119.

## PATHOLOGICAL REMARKS.



AFTER what has been said, it may be thought by some, that I ought to endeavour to find out the cause from which this fever immediately proceeds and derives its specific character ; but when I reflect how little is known about proximate causes, and how great the uncertainty of all reasonings *à priori*, I am induced to avoid this part of the subject, especially as I conceive it to belong rather to metaphysical, than to medical science. Such discussions indeed are far from being generally satisfactory, and, even when most ingeniously conducted, perhaps not more profitable than the long agitated disputes of the schoolmen, respecting the essences of things, which, in some respects, they seem to resemble. The history of medicine, like that of every other science, clearly shows that conjectures have seldom led to useful discoveries ; but, on the contrary, have often allured from

the investigation of facts, to the consideration of those obscure and disputable relations which things unknown bear to the known phenomena of nature. It has been well observed, by a sensible anonymous writer, that in physic, more than in any other department of human knowledge, facts are every thing, and theory nothing.\* It is, therefore, my determination not to connect hypotheses with the plain evidences of symptoms and dissections, by which, in my opinion, a true knowledge of pathology can alone be established, and from which my observations shall be chiefly drawn.

If an unprejudiced practitioner were called to attend a woman shortly after parturition, and found her labouring under an oppressive fever, the abdomen painful and distended, the skin hot, the tongue dry, the pulse very quick, the breathing hurried, and the secretions probably diminished or suppressed; and further, if he finally saw his patient fall a victim to the complaint, and, on accurately dissecting the body afterwards, discovered the most extensive traces

\* See the Eclectic Review for October, 1813, vol. x. p. 349.

of an abdominal inflammation, without any other appearances sufficient to account for death, he would at once conclude that the disease was of an actively inflammatory nature, and would determine for the future to treat it, and every similar affection, with the greatest promptitude and decision. Such a conclusion and determination I would most earnestly recommend every medical man to form ; first, because there is perhaps no disease more uniform than puerperal fever in the symptoms and morbid derangements which it induces ; and secondly, because it can only be combated with the probability of success by antiphlogistic means. Almost every writer of eminence on the puerperal fever has recorded the uniformity of the symptoms and morbid derangements ;\* and to prove the propriety and

\* The operations of nature upon the human frame, in this disease, are the same in Britain, as in Greece ; and continue the same at this day, as they were above two thousand years. This is likewise a clear proof of the immutability of puerperal fever, that it is an original disease, and hath been prevalent at all times, and in all climates. Hulse on Puerperal Fever, p. 96.

Also, respecting this point, consult Leake, vol. ii. p. 43 ; Home, Clinical Experiments, p. 67 ; Gordon, p. 5, 6, 117, 118 ; and Mr. Hey's excellent Treatise on this Disease.



usefulness of the antiphlogistic methods of cure, I might appeal to the works of Mauriceau, Burton, Peautau, Heberden, Denman, Hulme, Leake, Gordon, and Hey, which constitute a satisfactory train of evidence upon the subject. Were I inclined, too, I might here also avail myself of the great candour of those authors who have treated puerperal fever as a putrid and typhoid distemper, their impartial and disastrous reports forcibly demonstrating that stimulants, so far from answering a good purpose, are most decidedly prejudicial.

Some writers, of deserved celebrity, having considered the low fever of child-bed, which is sometimes epidemic, as specifically distinct from the puerperal peritonitis, it becomes, therefore, a matter of great practical consequence to ascertain whether symptoms and dissections justify such a distinction.

In the low fever of child-bed, pain, tenderness, and fulness of the abdomen, are generally discernible in the beginning; there is, likewise, a quick pulse, and preternatural heat, all of which symptoms appear in the puerperal perito-



nitis. But in the low fever, as it is termed, we find a weariness, greater prostration of the animal functions, an overpowering oppression of the whole system, which are not so apparent in the puerperal peritonitis, and which, together with the sometimes epidemical character of the former, have been thought sufficient grounds for classing it as a separate and distinct disorder. But, passing from symptoms, let us endeavour, by dissections, to develop the true nature of this disease.

All the anatomical examinations which have been made on the bodies of those who died of the low fever of child-bed, incontestably prove that if there be any difference between it and the puerperal peritonitis with regard to their inflammatory disposition, that difference merely consists in degree, the vestiges of inflammation being more strikingly evident, and extensively destructive in the former, than in the latter. For the truth of these affirmations, I refer, in particular, to the writings of Denman, Leake, Home, Hulme, Clarke, and Gordon, in which it will be found that the viscera of the abdomen—the peritoneum, the omentum, the me-

sentery, the mesicolon, the liver, the stomach, the small and large intestines, the uterus and its appendages, the bladder, and even the pleura, and the lungs themselves, have all, in their turn, been more or less affected by the inflammation attendant upon what they considered the true puerperal fever, or what others have called the low fever of child-bed.\*

It has been demonstrated by the accurate dissections of the late highly gifted Dr. John Clarke, that several quarts of a serous fluid, and large portions of coagulable lymph have been effused, in the course of a few days, into the cavity of the belly, during the progress of the low child-bed fever, and that, in those instances, the vestiges of inflammation left on the abdominal viscera, were by no means proportionate to the quantities of fluid and solid

\* If the reader should be desirous of consulting the authors alluded to here, respecting the morbid states induced by the puerperal fever, the following references may save him some trouble. Dr. Denman, vol. ii. p. 494, 495. Hulme, p. 37, 38, 40, 41, 42, 43, 45, 46, 48, 53, 54, 55, 56. Foster, p. 296, 297, 298. Leake, vol. ii. p. 11, 106, 180, 181, 182, 197, 198, 199, 209, 210, 227, 228, 240, 241. Home's Clinical Experiments, p. 73, 77. Dr. John Clarke, p. 80, 81, 123, 124. Dr. Gordon, p. 31, 40, 118.

matter extravasated. These appearances led that enlightened physician to suppose, that the effusion was not the effect of active inflammation, but of a certain disposition of the vessels of the parts affected, specifically distinct from an inflammatory action. The properties of this fluid, however, the coagulable lymph every where covering the intestines, and filling up their interstices, and the pain and general excitement which attended the previous disease, considerably lessen the force of this conjecture; and it will also appear the more improbable when we reflect, that the extravasation of so large a portion of serous fluid and curd-like matter would necessarily tend to obliterate the strong characters of inflammation, on the surface of the viscera and linings of the abdomen, in some cases, and, in others, to render those characters less distinct than they would have been, provided a more inconsiderable exudation had taken place.\* It is an indisputable

\* If an inflammation arise in a cavity, it may terminate in a number of different ways : one of these ways is by an increased secretion of the fluid of surfaces. A man receives a blow on the testicle ; inflammation takes place, and the consequence is frequently a hydrocele, or dropsy of the tunica vaginalis. A child's brain inflames,

fact, that inflamed internal canals and membranous surfaces often pass, with great rapidity, from the first state of inflammation, into the suppurative or effusive action.\* Very considerable suppuration is occasionally found, on the membranes of the brain for instance, with hardly any vestiges of an increase of vascular action: but would any person deny, or has any person even conjectured, that this could take place without previous inflammation? If it be here objected that suppuration is not effusion, and that, therefore, the cases are not analogous, it is readily granted that suppuration is not effusion; but it cannot be disputed that these

and this inflammation ends at last in hydrocephalus, or collection of water in the brain. Pleurisy frequently terminates in hydrothorax, or collection of water in the chest. I have often taken away forty or sixty pints of water which had accumulated in the cavity of the abdomen, in the few days the peritoneal inflammation had lasted, during the usual species of child-bed fever. Cruikshank on the Absorbing Vessels, p. 116.

\* In inflammation of membranous parts which in health secrete a particular fluid, a liquid different from pus, and resembling more the natural secretion of the part, is formed. In this, as in the other case, the inflammation diminishes; but the patient has seldom any chills, nor is the structure of the part injured, at least further than by mere distension, if it be a cavity. John Burn's Dissertation on Inflammation, vol. i. p. 290.

are two of the ways in which inflammation terminates ; and if we always infer the existence of inflammation in the one case, how can we, in considering the puerperal fever, fairly deny it in the other ? In short, it appears to me physically impossible that any thing but a highly active inflammation could occasion, in the short space of five or six days, so large a collection of serous fluid and coagulable lymph as that sometimes found in the cavity of the abdomen, after the fatal termination of the low child-bed fever.

In discussing this question, it might reasonably be expected, that I should give some account of those dissections which my own experience has afforded, after the fatal issue of what might be deemed the true puerperal fever. In all of those dissections which I witnessed, the most unquestionable proofs of abdominal inflammation existed ; and the same has been invariably observed in many examinations made by some of my professional friends, in fatal examples of the hospital puerperal fever. In addition to these facts, the evidence of the able conductors of the Medical Review and Re-



gister may be adduced. They examined the bodies of thirteen women who died within a short space of time. In every instance the peritoneum was inflamed, and covered, as well as the surface of the intestines, with a layer of coagulable lymph, while a quantity of whey-like fluid was effused into the cavity of the abdomen.\* Some go so far as to pretend, that the puerperal fever cannot be the same as the true puerperal peritonitis, because in the former the peritoneum which lines the anterior surface of the abdominal cavity, and which is not immediately attached to the viscera, has been found uninflamed, but this is at best the quibbling evasion of an embarrassed disputant; for dissections discover, that some portion of this membrane has been invariably inflamed when traced throughout its whole extent, though certainly other parts, as in other fevers, are liable to suffer from the general excitement. From all that has been advanced, then, it may be laid down as a general proposition, that abdominal inflammation directly or

\* See the Annual Medical Review and Register for 1809, vol. ii. p. 278.



indirectly is the cause of the fatal termination of all the varieties of the puerperal fever. But though I have strenuously contended, that the puerperal peritonitis, and the low child-bed fever, may be pathologically considered as modifications of the same disease, yet I have avoided the term identity, because I have no inclination to enter into abstract discussions, or nominal disputes. Nor will I take upon me to assert, that there is always a perfect sameness, since there necessarily must be such a difference as arises from the peculiarities of the patients, from the parts within the abdomen most decidedly attacked, and from the influence of the seasons and other circumstances. Nay, I have no objection to grant, that the inflammatory character of this disease sometimes conceals, and even appears to lose itself in an almost unequalled prostration of the powers of the system. What I wish, however, particularly to insist upon is this, that the low child-bed fever, and the puerperal peritonitis, are so far the same as to require the depletory practice; only in the former this practice must be more promptly and powerfully applied, as the time in which the professional man can be useful is

much shorter, on account of its greater intensity.

It cannot be denied by any one, that the disease which I have delineated in the beginning of this work deserved the name of an epidemic, in the most strict sense of the word; and yet some cases of that epidemic bore the character of a simple inflammation of the peritoneum, and others again assumed a more mixed and malignant character, from the greater depression of the general powers. It was the certainty of this fact, together with the disease being remarkably limited to the practice of certain individuals, which mainly induced me to believe, that it was contagious; and reasoning from the similitudes in the cases which had previously come under my observation, and from the general analogies in the laws of febrile diseases, an inference was drawn precipitately, that the puerperal fever is invariably of a contagious nature. So many experienced correspondents, who had no theory to support, have spoken so confidently of the non-contagious character of the puerperal fever under its ordinary or sporadic form, that it would be presumption in

me to suppose them mistaken rather than myself;\* and if the puerperal fever be not contagious when it is sporadic, it becomes a most interesting question to ascertain, whether or not it be contagious when it is epidemic. Many of the causes of fever, especially those connected with certain states of the atmosphere, are involved in so much obscurity as often to leave room for considerable doubt: and it seems as if it were almost a principle of our constitution, that rather than vacillate long in doubt, the mind will rest even upon error. Hence in things highly interesting to us as moral and intellectual beings, we often find that repose in some dogma, which we in vain sought for in the deliberations of philosophical inquiry; and hence too, in what relates to the explanation of the more subtile causes of our physical disorders, we perhaps too frequently have recourse to contagion for a solution of some perplexing difficulty. Two of the

\* It is with the greatest pleasure, that I publish the valuable communication of Dr. Joseph Clarke in the appendix, because it contains the open and honourable expressions of an independent mind; and as some of those expressions, especially on the subject of contagion, bear directly against some opinions advanced in the first edition of this work, they may be highly useful by turning the attention of others to the points of discrepancy.

gentlemen in whose practice the puerperal fever appeared in the north of England, during the year 1813, became so fully assured of their conveying the contagion, that they withdrew from their professional avocation for a time; and though at that period an equally confident impression was made upon my mind, as to the infectious property of the disease, yet I shall not now draw any inference on the subject from the facts recorded, but leave them for the consideration of others, who may be disposed to accumulate evidence on a point so important. An attentive perusal of various treatises, and a cautious survey of those cases which I have myself seen, would authorize me to conclude, that the puerperal fever may proceed from a variety of causes; and future observation will probably bear me out in affirming, that any circumstance which gives a general shock to the system, is fitted to produce the disease in habits already predisposed. But if it be asked, why a variety of causes should produce the same effect, we must look to the peculiar condition of the abdomen at the time of their application: for it must again be repeated, that if a general excitement occur, the principal mischief of that

excitement will be most liable to happen where the state of the circulation had been previously most disturbed; and this is a pathological doctrine of such extensive application, that some pains shall be taken to illustrate it, in an essay which will shortly appear in an emended edition of my treatise on typhus.

## TREATMENT.

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NO medical man can be ignorant of the great diversity of treatment which has been pursued in the puerperal fever. Being persuaded that much of this diversity proceeds from want of a proper regard to the distinctions between the stage of excitement and the stage of collapse, the reader must excuse me for again briefly reverting to those distinctions ; as it was repeated observations of the disease as existing under two different states, that led to the discovery of those principles which have been found at once simple and adapted to the nature of the complaint.

The puerperal fever is sometimes ushered in by a rigor, and sometimes merely by some degree of preternatural paleness of the surface ; but in both cases there is a diminution in the



force of the pulse, and also more or less diminution of the animal heat. This stage ought to be accounted the first, because it almost invariably precedes what is usually called the re-action, or the establishment of the true febrile state. But as this obscure stage is common to other affections, and as the character of the puerperal fever cannot, in general, be said to be truly declared till the re-action exist, the occurrence of that re-action, and its continuance to its highest point, shall be denominated the stage of excitement ; and on the other hand, the marked declination of that excitement, and the symptoms of constitutional exhaustion which supervene, shall be denominated the stage of collapse, for the purpose of more forcibly contrasting the different states of the system in these two stages.

As soon as the heat becomes greater and the pulse quicker than natural, the stage of excitement may be pronounced to be established. In this stage the skin is commonly dry as well as hot ; but in some instances it is partially damp while it is universally hot, and this is particularly liable to happen where the pain is violent,

or where the stomach is affected with nausea or vomiting. The pulse is hardly ever less than 120 during this stage, and in some rare cases as high as 140 in the minute, or even higher. In general the blood does not flow in a soft, easy, tranquil current, but comes against the finger with a vibratory sort of motion; and more than ordinary pressure is commonly requisite to stop its course along the artery, which in such cases feels hard and tense, like a cord upon the stretch. Yet there are some instances in which the pulse is very quick, and peculiarly soft and compressible, from the first occurrence of the stage of excitement; though this, so far from being more favourable, is considerably more dangerous than the hard resisting pulse, for it marks a relaxation of habit highly to be dreaded in every form of fever. In this stage, too, the patient complains most of the abdominal pain and soreness, breathes above thirty times in the minute, and rather anxiously, has a white foulish tongue, considerable thirst, and much febrile restlessness and irritation. The belly is generally bound, and bile or mucus vomited in some cases; but in others the stomach is little disturbed, though its powers in most are prostrate.

In the stage of collapse, the pulse always becomes exceedingly weak and small, and in most cases is above 140, and in some above 160 in the minute; though in two, which I attended since the first edition of this work was published, the pulse fell somewhat below 100 a few hours before death, still continuing very thready to the last. The respiration generally becomes much quicker, shorter, and weaker in this than in the preceding stage; so that it is not uncommon to see some patients breathe above fifty times in the minute; but I have known a few cases, where the brain was embarrassed, in which the respiration became very slow and impeded before death. On the supervention of this stage, the heat begins to decline, and is not equably diffused over the surface, as in that of excitement. Cold partial perspirations first break out about the face, neck, and extremities; the central parts of the body often remaining dry, and of a superficial glow, for some time afterwards. The patient now mostly vomits both her food and medicine, which are apt to be tinged with a dark grumous matter; and the belly is commonly loose from

the commencement of this stage, and the abdomen much distended with flatus. The tongue in some cases has a brown or blackish appearance, in others it is red, rough, and parched; but where there is much fluid vomited, it is often moist, and has a pretty natural appearance. The thirst is generally unquenchable in this stage, and the patient becomes less and less capable of assisting herself by voluntary efforts. The countenance is sunk, yet often agitated, the face and lips cadaverously pale, and the alæ nasi in almost unceasing motion; while the patient lies flat upon her back, often moving her hands and drawing up her feet, or now and then unexpectedly throws herself into some strange attitude. There is often much moaning or muttering in this stage as if great uneasiness existed which, however, is seldom referred, on questioning, to any particular part; but several hours before death, the sensorial functions are in general some way disturbed, and the skin becomes remarkably relaxed, damp, and cold. In fine, the stage of excitement is marked by inflammatory, and the stage of collapse by low

malignant symptoms; and the degree of the latter is almost invariably in proportion to the degree of the former.

Perhaps scarcely any of the above symptoms, taken singly, can be depended upon as distinctions between the stage of excitement and that of collapse; yet as several of them accompany or succeed each other, they may together enable the practitioner to discriminate each of these states in the puerperal fever. The stage of excitement is variable as to its duration, being regulated by the degree of the general fever, and of the local affection. Sometimes it terminates in twenty hours, and at other times extends to seventy, even when the inflammation is of the acute kind; but in that slow modification where the general fever is not urgent, and where the abdominal inflammation is sub-acute, this stage may be much more protracted. The period of time, too, which the stage of collapse occupies, is likewise very uncertain. If it be accompanied by gangrene in some of the viscera, it does not last many hours, and if by suppuration, it is generally mortal in a few days: but where it is accompanied, as generally happens,



with an effusion of serous fluid and coagulable lymph into the abdomen, it may occasionally continue a longer time; and though in some rare instances it may even present the possibility of recovery, yet it is commonly soon fatal, from the exhaustion and irritation with which it is combined.

In the earlier part of my practice, being consulted in the last stage of some cases of the puerperal fever, more than once I was surprised to find the abdomen soft and painless, and the countenance little discomposed, when the clayey coldness of the extremities, and the quick, liny, irregular pulse warned me that the patient had not many hours to live. If no accurate history of such cases could have been obtained, it is not impossible but I might have concluded, that the disease was most decidedly of the asthenic order, requiring wine and cordials throughout; but, on minute and repeated investigation, I then found, as I have since in similar cases, that this general prostration of the system was preceded by febrile excitement and pain, in short, by symptoms of abdominal inflammation. For the most part, physicians are not consulted till the



disorder has advanced into the last stage, in which blood-letting is so certainly destructive; and some authors having formed their opinion from the appearance of disease, and the ill effects of venesection at this period, seem thus to have been persuaded, that debility was the principal thing to be counteracted throughout.

In the treatment of all febrile diseases, and of the puerperal fever in particular, it is of the greatest consequence to distinguish between apparent and real debility, between a state of the system in which the general powers are depressed but not subdued, and an opposite state of collapse, in which those powers are absolutely and exceedingly weakened: for in the former case, what appears to be a state of debility can only be removed by depletion sufficient to take off the load by which the strength is suppressed; but in the latter case, the period for depletion, at least by the lancet, is completely past, and the prostrate powers must then be sustained by invigorating measures. In the epidemic which occurred in the north of England, there was an appearance of excessive

debility in many cases soon after the attack ; *but in all it was purely an appearance of debility in the beginning* ; in a word, an oppression dependent upon the general excitement and topical inflammation. In the last stage, however, the debility was altogether of a different description, being then connected with general exhaustion and general irritation—the mere consequences of the unrestrained excitement and inflammation, which had previously taken place.

If I might be allowed to judge from my own experience, it may be laid down as a general principle, that the abdominal inflammation is greatest in those cases of the puerperal fever which are attended, from the beginning, by most oppression of strength, and of the vital powers ; and it will be found a most fatal delusion to be deterred from early bleeding and purging by the semblance of debility, which only serves as a covering to obscure the destructive progress of the abdominal inflammation. It was indeed this semblance of debility which deterred some practitioners from the employ-

ment of the lancet, in several of the most formidable cases which occurred; and it was only a fatal experience which convinced them of the mistake, and which determined them to adopt an active practice, in opposition to the prejudices imbibed at the schools. In the beginning, the puerperal fever may be considered as an alarming irregularity of the system, capable however of being generally corrected by prompt and decisive means; but in the last stage, the functions or structure of the grand machinery of life are so much deranged as to be utterly irreparable. The puerperal fever, under every form, will only be found remediable in the stage of excitement; at least nothing can be done with the probability of success when the general collapse supervenes. It is in the commencement only, that the inflammatory symptoms are manifested; and when the excitement has passed its acme then come the malignant symptoms, which have been supposed to constitute the essence of the low child-bed fever; but in fact these symptoms are nothing more than the effects of that excitement, and therefore the

term low child-bed fever is calculated to convey very erroneous notions of the nature of the disease, being in strictness only applicable to the last stage.

These observations may serve to show how dangerous are the opinions of those who recommend stimulants from the very outset of the puerperal fever; since such agents must necessarily increase the irregularity in the system during the first stages, and thus contribute to hasten that derangement of the vital organs which is, directly or indirectly, the cause of death in the last stage. The advocates, indeed, for the stimulant treatment have been so candid as to confess, that it has rarely been attended with the desired success, by far the greater number of their patients having sunk under its employment. Yet so far from conceiving, that the treatment was in any manner concerned in this awful fatality, they have attributed every thing to the irremediable nature of the disease; nay, they have gone even further, and in their zeal against innovation, have condemned the depletory

practice, without even having given it a fair trial. Some men come to the consideration of important subjects with a creed and a character which they had passively but deeply received ; and such men seldom view things as they are actually regulated in nature, but in general according to the prescriptions of their predecessors. The most authentic records, however, in regard to the puerperal fever, if impartially examined, do go to demonstrate, that evacuants have been generally successful when properly used ; and it may be safely asserted that, for the most part, they have only failed when they were not employed sufficiently early, or not carried sufficiently far, as might be proved by references to Leake, Hulme, Denman, Gordon, and other authorities. It is still the constant cry of many, that you must refrain from depletion in the beginning of fevers, by way of preserving the powers in the advanced stages ; but this is a doctrine alike dangerous to the reputation of the practitioner, and to the life of the patient : for the best way of sustaining the powers in the advanced stage of fevers, is to cut short or reduce the excitement in the first ; and to withhold the measures which do



this, is to expose the subjects of fever to the chances of fatal derangements in the structure or functions of the vital parts within.

During a residence of several years in Sunderland, some cases of the puerperal fever, chiefly occurring among the poorer inhabitants, annually came under my care. For the most part, my opinion was not requested till the disease had existed some days, and I found that whatever plan was pursued the event was generally disastrous. Blood-letting invariably sunk the feeble remains of life with great rapidity; a liberal allowance of wine and cordials was, if possible, more speedily destructive; and although purgative medicines, and a nutritious diet, protracted, they seldom saved the life of the patient. Being fully aware of the inflammatory nature of the puerperal fever in the first instance, when called early, I almost always ordered one venesection from a large orifice, cathartics daily, and a spare diet during the continuance of the urgent symptoms. In the main run this practice succeeded, though now and then a solitary patient was lost, even when it had been commenced under the most favourable



circumstances. From these facts, it clearly appeared that the complaint, when attacked in the commencement, was generally curable, but, when advanced beyond a certain point, almost always irremediable. It likewise forcibly struck me, that when purgative medicines failed to procure stools in the first instance, the disorder commonly gained so much power, in the time lost in their repetition, as to become uncontrollable. This naturally led me to give larger doses, that the bowels might, if possible, be thoroughly opened at an early stage of the disease. Having, however, witnessed some cases in which the aperient plan was not singly adequate to the cure, I was the more satisfied, that both venesection and purging were generally necessary. Thus far were my views extended, when the disease, described in the beginning of this work, began to attract the most serious attention, from the death of five women in rapid succession. In three of these cases the active use of purgatives had been entirely trusted to, with a strictly antiphlogistic diet, and occasional anodynes. In the other two moderate bleeding was conjoined; and it was observed, that in these the greatest relief

had been afforded to the symptoms ; though the purgatives in the other examples had always less or more alleviated the abdominal uneasiness, when they acted freely in the stage of excitement. Four of the fatal cases having occurred in the practice of Mr. Gregson, and my opinion having been requested in three of them, it may readily be conceived that we felt great anxiety from such untoward events. On reflection, however, we were sensible, that we had followed the only principle of treatment upon which any rational confidence could be placed ; and if we had any thing to regret with respect to ourselves personally, it was in not having carried this principle of depletion sufficiently far in the commencement.

In fact, every review of these unfortunate cases tended more strongly to convince me of the truth of my former impression, that bleeding and purging were the most promising remedies ; and experience had taught me that even these would be inefficient, unless they could be brought to operate powerfully together on the disease in its first stage. Thus prepared, I determined to unite and carry venesection and

purging further than before, if any cases of the same kind should again be timely entrusted to my care; and an occasion soon offered itself which enabled me to put my determinations into effect, not only without opposition, but with the complete concurrence of Mr. Gregson, the attendant surgeon, whose opinions were similar to my own.

The patient had not been ill longer than twelve hours, and the case seemed fully as threatening as any of those which had ended unfavourably. Twenty-four ounces of blood\* were immediately drawn from a large orifice so as to induce fainting, one scruple of calomel, suspended in mucilage, given immediately afterwards, and two ounces of a strong infusion of senna, containing two drachms of the sulphate of magnesia, ordered to be taken every hour till copious evacuations should be produced. The attendants were directed to allow the patient barley water, agreeably acidulated with lemon juice, for a common drink and diet, and to withhold the smallest portion of solid food, or

\* In all the cases, the blood drawn was covered with a buffy coat.

stimulating liquids. In about four hours the medicines began to operate, and several copious, dark, fetid stools were discharged; from that time considerable relief was obtained, and a regular perseverance in purgatives, with mucilaginous drinks, and a small quantity of exceedingly weak chicken broth, completed the cure in five days. Several cases of a similar description succeeded, and being treated upon similar principles, the result was always equally favourable. In some instances, however, it was found that more than a scruple of calomel was necessary to act fully on the bowels with the desired rapidity, the dose was accordingly increased to half a drachm, not only without danger, but apparently with decided advantage. When the inflammatory symptoms were subdued, small opiate draughts or enemata were very useful in allaying the irritation of the system, and inducing quiet sleep; but they seemed to be prejudicial in the very commencement of the fever, before evacuations were employed.

In addition to bleeding and purging, Mr. Gregson was induced, from an accidental cir-

cumstance, noticed in his communication, to prescribe antimonial emetics, and he found them to be excellent auxiliaries, never using them, however, till the patient had been freely bled or purged. Three severe cases which I attended were treated by blood-letting, purging, and vomiting, successively employed in less than twelve hours, and the united influence of these was certainly very striking; a complete change having been brought about in the state of the circulatory system, and almost every symptom of inflammation and fever entirely subdued. Dr. Denman, M. Doulcet, and other writers, have borne testimony to the usefulness of emetics in the puerperal fever; and, though thinking favourably of them myself, when given in the manner above mentioned, yet I must confess that bleeding and purging were the two remedies, in which my chief confidence was placed in the treatment of this epidemic.

From accurate documents now before me, it appears that from the 1st of January to the 1st of October, 1813, forty-three very distinctly marked cases of the puerperal fever occurred to five practitioners residing in Sunderland, and



the adjacent parishes, and only five cases out of the whole number terminated fatally. By comparing these results with the reports as to the general fatality of the puerperal fever, and by examining the evidences contained in the appendix, the superior advantages of the practice pursued will be fully apparent.

The thirty-eight successful cases were all treated by a system of copious evacuation; and in twenty-nine of them, calomel was exhibited either in doses of a scruple or half a drachm at the beginning, and occasionally repeated in the course of the distemper. For the most part it operated so expeditiously, with the other purgatives, that there were very few instances in which ptyalism was excited, and wherever it did occur, it seemed favourable, all of such patients, except one, recovering with more than ordinary celerity: and to illustrate the superior efficacy of large doses of calomel further, it may be here remarked, that in none of the five fatal cases more than fourteen grains of calomel were given on the accession of the fever, jalap, sulphate of magnesia, and castor oil, being the cathartics chiefly employed during its progress.



To a person in health, or but slightly indisposed, such an extraordinary dose as twenty or thirty grains of calomel would be followed by unpleasant and violent effects: but when the constitution labours under a febrile disorder of the high inflammatory kind, calomel, given to a large amount, is not succeeded by disagreeable, but beneficial consequences; a circumstance which shews, that the operation of this remedy is materially influenced by the state of the system at the time of its administration. Indeed this must be apparent at first sight. In health, the violent operation of calomel would of itself produce a disease, but in fevers, especially in those increased by irritations of the *primæ viæ*, there is something in the morbid state of the system which prevents its distressing effects; and, as far as it does act, it has a direct tendency to diminish the febrile commotions; so that no reasoning from its operation, in ordinary cases, can with propriety restrain us from giving it with greater freedom in extraordinary cases.

\* In some few severe cases, which took place in very weak, broken-up women, venesection appeared to be inadmissible, and calomel was pre-

scribed, in large quantities with the sulphate of magnesia and castor oil; and though the patients finally did well, their recovery was slow and doubtful for some time, and they had a strong tendency to hectic, long after the abdominal symptoms disappeared. Whereas those patients who were copiously bled and purged, or bled, purged, and vomited successively, were usually convalescent on the fourth or fifth day, and, from that time, regained their health and strength rapidly.

My correspondent Mr. Wolfe, whose opinions I greatly respect, relies principally upon the daily exhibition of purgative medicines, and his practice has been generally successful. This may be partly attributed to his discernment, and unremitting attention to the duties of his profession; the former enabling him to detect, and the latter to attack the disorder when first advancing. But from repeated conversations which I have had with Mr. Wolfe, it would seem, that the cases which have fallen under his observation were divested of the violence of the worst forms, which will be found to require a combination of the most powerful means that have been singly recommended and adopted.

by practitioners of the first authority. This was so much the case in the epidemic, which has been made the chief subject of these pages, that hardly any patients escaped who were not early bled, except those which Mr. Wolfe attended, and a few others which had a subdued character. It is worthy, too, of particular notice, that the disease fell under the observation of some who had received an early and a strong prejudice against venesection; but they finally abandoned this prejudice from its being fatal to their patients, and became the decided advocates for the use of the lancet from direct proofs of its efficacy. Some differences, indeed, exist on minor points, among those gentlemen who honoured me with their correspondence, but they all agree in the principle of early and powerful depletion. This remarkable agreement appears to lay the foundation for a fair inference in favour of the inflammatory character of the puerperal fever; since those who have treated it successfully, in whatever else they may differ, accord in this, that it can only be overcome by such means as are constantly had recourse to for the removal of inflammation. In many of the cases which oc-

curred at Sunderland, one blood-letting, carried to syncope, and assisted afterwards by purgatives, sufficed to accomplish the cure, but in some a second venesection was requisite; and where it was promptly employed on the continuance or recurrence of the urgent symptoms, it was highly advantageous. The following case, however, will serve to show, that even repeated bleeding may be of comparatively little benefit when partially adopted in the first instance, and at a considerable interval in the second.

Catharine Bewick, aged nineteen years, unmarried, and of a robust habit, was delivered of her first child on the 23d of August, 1813, after a severe labour. The placenta was thrown off about twenty minutes after the birth of the child; and though the discharge had hitherto been trifling, in an hour it became so considerable, as to require the application of cold to restrain it. Mr. Tullock, who attended this woman, on visiting her the next day, found that she had passed a good night. Her bowels had been freely moved from some castor oil, which had been administered before her deli-

very. There was neither pain nor tension over the abdomen, and she had passed her urine freely without the least uneasiness.

Mr. Tulloch being unavoidably called to a distance early on the morning of the 25th, he requested a professional friend to pay her a visit in the course of the day. On his return in the evening, he learned from his friend, that at midnight, on the 24th, the patient had been seized with a strong rigor, which lasted for some time, and which was followed by a hot fit, and all the usual symptoms of the puerperal fever. The disease had existed about ten hours when this gentleman was called to attend for Mr. Tulloch, and he immediately drew about twelve ounces of blood from the arm, enjoined a strictly antiphlogistic regimen, and prescribed ten grains of calomel to be taken immediately, and four table spoonfuls of an infusion of senna, with salts, every two hours afterwards, until the bowels should be freely moved.

At six o'clock in the evening another visit was made, two very small stools had been pro-



cured, the abdomen was still tense, and very painful on the slightest pressure, and the pulse 130 in the minute.

From the urgency of the symptoms, this gentleman was then induced to draw sixteen ounces of blood, and to direct a continuance of the purgative mixture. Mr. Tulloch having returned from his journey at nine o'clock, he immediately visited the patient with his friend, and they were both disappointed to find that the purgatives previously taken had failed to procure free evacuations, the pulse had risen to 160, and the anxiety, restlessness, heat, pain and tension of the belly, were all increased.

At this period, my assistance was first requested, and it was agreed in consultation, that half a drachm of calomel, in an ounce of the mucilage of gum arabic, should be directly given, and the dose of the mixture repeated every hour. At midnight another visit was paid. The patient had passed several large stools, the pulse was now 140, the pain and tension of the belly were greatly relieved, and the anxiety, thirst, and restlessness, considerably



diminished. The mixture was ordered to be continued as before.

As one stool had only been procured by five o'clock in the morning of the 26th, ten grains more of calomel were given in a bolus, and the mixture repeated. Two hours afterwards, she had two copious stools of the appearance of gruel. The pulse was then 120, the tenderness, pain, and tension of the belly diminished, the countenance less anxious, the tongue cleaner and moister, and the thirst not so urgent. By continuing the mixture, three additional stools were procured before noon, when it was omitted, and one prescribed containing three ounces of castor oil, with nine of mint water, of which four table spoonfuls were directed to be taken every two hours. At nine o'clock in the evening the bowels had been three times copiously moved from the castor oil, on which account it was not repeated; but by way of lessening the force of the circulation, the third of a grain of tartarized antimony was ordered every two hours, and thirty drops of the tincture of opium were given at bed-time, to allay irritation. On the morning of the 27th, it was found, that she

had obtained but little sleep, and no evacuation by the bowels. There was some slight increase of fever, probably arising from these two circumstances. Two ounces of the sulphate of magnesia, with one grain of tartarized antimony, and nine ounces of the infusion of senna, were prescribed as a mixture, four table spoonfuls of which were administered every two hours during the day. At eight o'clock in the evening it was reported, that she had had three very plentiful stools, and that the pain and tension of the belly were nearly gone, though the former was still increased by pressure. The pulse remained at 120, but the anxiety, heat, and thirst, were all considerably abated. The anodyne was repeated at bed-time, and a mucilaginous drink slightly acidulated ordered to be taken occasionally, in a little barley water. She passed a good night, the pulse the next morning was still 120, and the other symptoms as before. Weak chicken broth was now allowed. Castor oil was again prescribed; and in the course of the day she took so much as three ounces, which purged her five times; but the stools had now a natural appearance, and though the skin was hotter than natural, yet it was

perspiring freely. The pulse still continued at 120, and slight pain was felt on pressure over the belly. The anodyne was repeated at bedtime, and moderate doses of the liquor ammon. acet. ordered during the night at intervals of two hours, in order to keep up the perspiration. She got no sleep, and at ten o'clock on the morning of the 29th, she complained much of pain nearly in the situation of the right lateral ligament of the uterus. The skin was very hot, though she still perspired freely, and the pulse had risen to 130, and was rather hard. One scanty stool had been passed with some griping pain, and the anxiety, restlessness, and thirst, were much augmented. The sudorific mixture was omitted, and ninety drops of the tincture of opium prescribed, under the form of a small enema, that it might be retained in the rectum. She was rather easier from the injection, but at noon the abdominal tenderness, tension, and pain, had returned, the last of which was increased by the slightest pressure. The pulse continued at 130, the tongue was dry, the thirst intense, the countenance pale and dejected, the skin very hot, but moist; and these symptoms were accompanied with aching of the temples,

and impatience of light and noise. As it was conceived that the chicken broth might possibly have been made stronger than was directed, or that at all events it might have increased the excitement, it was omitted; and gruel, with a little milk, substituted. Four table spoonfuls of the mixture, containing two ounces of the sulphate of magnesia, were ordered to be taken every half hour, until the bowels should be freely opened. At nine in the evening all the mixture had been taken, but without effect; and the pulse was then 135, the restlessness great, the thirst intense, the countenance extremely anxious, the respiration short and quick, and the rest of the symptoms the same as at the morning visit. An ounce and a half of castor oil was given in a little warm coffee; but two hours afterwards no evacuation by the bowels had followed, the pulse had risen to 140, and it was small and compressible. In other respects there was no material change. Warm fomentations were ordered to the abdomen, a common purgative enema administered, and a scruple of calomel given in the mucilage of gum-arabic.

She was visited at seven o'clock on the morn-

ing of the 30th, and the medicines had occasioned five very copious stools of a much darker colour than before. From these evacuations, she had experienced great relief, the pulse had come down to 120 in the minute, the heat of the surface was lessened, the tongue moister, the countenance more composed, but the pain of the right side was still severe, especially when she moved, or when pressure was applied. Slight ptyalism was now observed for the first time. In the course of the day she took, in divided doses, five drachms of a powder composed of equal parts of jalap, and the supertartrate of potass, from which she procured three evacuations by six o'clock in the evening, when the anodyne enema was again ordered, on account of the continuance of the abdominal pain and general irritation. But as this had procured no sleep, as the pulse was still above 130, and as the other symptoms remained unaltered, at ten o'clock the same evening, a mixture was prescribed, containing two ounces of the sulphate of magnesia, eight of mint water, two scruples of jalap, and two grains of tartarized antimony. But under an impression, that she might possibly still obtain some rest, it was directed not to be



exhibited till two o'clock on the ensuing morning; when three table spoonfuls were to be given, if awake, and repeated every two hours afterwards. She had several hours of sleep in the night, and at eight o'clock A. M. of the 31st, she was rather more composed; the heat and thirst being less urgent, and the pulse six beats less in the minute. As only a part of the mixture had been taken, it produced no evacuation, and even the whole of the remainder was ineffectually administered; so that at noon one ounce and a half of castor oil was given, which occasioned four dark-coloured stools by eight o'clock in the evening, when the pulse was 125, and the other symptoms as before. Twelve grains of the compound powder of ipecacuan were ordered at bed-time, with a view of allaying uneasiness, and exciting perspiration.

She had but little sleep, and on the next morning, the 1st of September, there was no material change in her condition. The anodyne enema was once more had recourse to, and four of the colocynth pills with aloes were directed to be taken every six hours. But at eight o'clock in the evening the bowels had not been



opened, and the pulse was then 130, the heat of the surface considerable, the countenance extremely anxious, and much pain on pressure over the abdomen. The cathartic pills were omitted, and a drachm of the compound powder of jalap prescribed immediately, and half a drachm was ordered to be exhibited every two hours afterwards, until the bowels should be moved freely. Having taken two drachms and a half of this medicine, she had four copious and feculent stools, after which she slept about three hours. At nine o'clock in the evening, the pulse was 125, without any other alteration of consequence in the symptoms; but as she appeared to be much exhausted, beef-tea, chicken broth, and milk, were allowed to be given freely. At eight o'clock in the evening, it was reported that she had had no stools since the morning. The pulse was 130, the tongue dry, the thirst great, the heat, restlessness, and anxiety considerably increased; while a general tumefaction and pain existed over the belly, accompanied with much confusion of thought, and a more urgent uneasiness in the head. An ounce and a half of castor oil was immediately given in warm

coffee. After having had four evacuations, she obtained some disturbed sleep. But at an early hour on the 3d, the pulse was 140, the countenance pale, anxious, and dejected, the tongue dry, the thirst urgent, and the perspirations were profuse, without at all reducing the heat of the skin. The respiration, too, had become short and wheezing, and considerable enlargement, with tension and tenderness, had taken place over the abdomen, which felt as if an effusion had taken place into its cavity. As the chicken broth seemed formerly to have augmented the excitement, it now appeared, as highly probable, to have produced a similar effect, aided by the beef-tea; and on this account they were both ordered to be immediately omitted, and gruel, with a little milk, was directed instead.

As the case now seemed all but hopeless, and as active purging had before given decided relief for a time, it was resolved once more to try the full influence of this plan. Twenty-four grains of calomel were therefore given in an ounce of mucilage, and four table-spoonfuls

of a mixture, composed of two ounces and a half of sulphate of magnesia, and eleven of the tartarized infusion of senna, were ordered every four hours, till the bowels should be plentifully evacuated. At the evening visit, it was found that the patient had procured five very copious stools, which contained, to our surprise, many small pieces of dark-coloured scybala, which had probably been retained for some time. The pulse was now only 125; the heat, thirst, restlessness, and anxiety were all greatly relieved; and the swelling and pain of the abdomen considerably less. Four table-spoonfuls of the purgative mixture were ordered to be taken every two hours during the night, if the patient should be awake. Soda-water was recommended for the common drink. She had a sleepless night, owing to the frequent operation of the purgative medicine. But on the morning of the 4th, the pulse had fallen to 120, the countenance was less depressed, and the swelling and tenderness of the belly were quite gone. Still some wheezing existed, but without pain or tightness of the chest, so that it seemed to be purely bronchial. The tongue was cleaner, notwithstanding the thirst; and

dark copious stools had been procured, with flocculi of a whitish appearance floating on the surface. The purging mixture was discontinued; but three additional evacuations occurred before the evening, from the doses previously taken. On account of the wheezing being rather more troublesome, and the pulse somewhat quicker, half a grain of opium was given at bed-time, and a similar dose ordered to be repeated in four hours, if sleep should not be obtained. Besides, a pectoral mixture was prescribed, chiefly composed of the vinegar of squills, with the common mucilage, and a very small portion of laudanum. About this time, the abdominal were completely lost in the pectoral symptoms, which continued till the 6th of September, when a blister was applied to the chest, which gave great relief. From this period she recovered apace; and in about a month afterwards returned to her ordinary employment of a menial servant. This interesting history is only a narration from the notes, which were most carefully taken by Mr. Tulloch,\* whose great attention, skill, and kindness

\* Now surgeon in Newcastle-upon-Tyne.

so largely contributed to the recovery of the patient.

If this case had been treated more actively by the gentleman who was first consulted, it is highly probable, as he himself afterwards thought, that it would have been speedily cut short; and if it were possible that I could be again called in under precisely the same circumstances, I would employ venesection decisively, though the lancet had been twice previously used; for the strength of the patient was then not only unsubdued, but the inflammation in the abdomen existed in full force, and therefore bleeding should not have been withheld. The extreme nervous irritation which existed was the reason why blisters were not employed after she came under my care; but it is not unlikely that local blood-letting might have been advantageous, an application which I would not now omit in an instance of the same kind. As for the rest of the treatment it may be remarked generally, that I prescribed too much medicine; so that if the case were to be treated over again I should keep an action on the bowels by less complicated



means. Two errors were committed in the diet, for it was evident, that she became worse each time after the exhibition of the animal broths, which sometimes, even when weak, stimulate the heart more than might be *à priori* expected; and it may be regarded as a general rule, that the regimen ought to be strictly anti-phlogistic till the inflammatory symptoms be subdued, and therefore the *dieta aquea* is undoubtedly the best. Sometimes after copious depletion, when there is much acidity and flatulence of the stomach, with a consequent irritability of that organ, exceedingly weak chicken broth appears to be useful: but then the greatest attention should be paid by the practitioner, to see that it be made *exceedingly weak* and sparingly administered, otherwise a most hazardous mistake may be committed by the attendants of the sick; and even when convalescence is induced, an abstemious diet must be scrupulously enforced, since to deviations in this respect, relapses of fever may very often be distinctly referred. It is a great weakness in a medical man to give way to the wishes of patients respecting their regimen; for he should consider what is most proper for them,

and having fixed upon that, he ought to be unbending in his determination. In the young woman, whose case has been detailed, the fever was kept up by considerable anxiety of mind, under which she laboured from the loss of her moral character. Added to this, she lived in a small ceiled garret in a noisy situation, and had a presentiment that she should certainly die; a presentiment which is always unfavourable, and sometimes fatal, especially in the affections of child-bed; so that if these, with some circumstances in her treatment, be taken into the account, her recovery may be deemed somewhat remarkable. The following case where the lancet was only twice called for, may serve to show how much depends upon the manner and time in which it is employed.

Mrs. R. a stout and healthy young woman, in the 28th year of her age, was delivered on the 2d of the month. She had a natural and easy labour, and seemed to be recovering extremely well, till very early on the morning of the 4th, when she was seized with shivering speedily followed by head-ache, nausea, and retching. At noon of the same day, about ten hours after

she first felt indisposed, I was requested to visit her; the pulse was then as high as 134 in the minute, the skin pungently hot, the tongue white and dry, the milk and lochia almost entirely suppressed, the urine passed with some uneasiness, the breathing much quickened, the abdomen tense, and so sore that the weight of the bed-clothes could not be borne upon it. Her countenance was very anxious, and she complained of great oppression, pain, and weakness.

Twenty-four ounces of blood were drawn immediately from the arm, and she fainted. A scruple of calomel, mixed in mucilage, was given directly after venesection, and two drachms of the sulphate of magnesia, with an ounce and a half of the infusion of roses, ordered to be taken every hour till five or six copious stools should be procured. Barley water, with a little isinglass in it, was allowed as a common drink and diet. When she was again visited at six o'clock in the evening, it was found that the blood abstracted had a firm crassamentum, which was cupped and sized. The patient had passed only three scanty, fetid evacuations, and did not appear to

be much relieved, the symptoms being then nearly as urgent as at the last visit. Twelve ounces of blood were taken away immediately, which again made her faint. Twenty grains of calomel were prescribed, and a mixture, composed of an ounce and a half of the sulphate of magnesia and six ounces of a weak infusion of roses, two table spoonfuls of which were directed to be taken every hour, after the exhibition of the calomel, till the bowels should be frequently and plentifully opened.

She was visited at six o'clock the next morning. The blood drawn last evening was covered with a buffy coat. The whole of the medicine had been taken, which produced seven large, dark, loose stools. The patient was very considerably better; her belly felt soft, and she could bear pressure with very little inconvenience. The skin was warm and moist, and the pulse reduced to 100 in the minute. An anodyne enema, containing 120 drops of the tincture of opium, was directed to be injected immediately, and the common neutral mixture to be taken in the course of the day, with a very little weak chicken broth now and then. Several hours of sleep were

procured by the anodyne enema, and from that time the patient might be considered convalescent, but her bowels required to be kept open by castor oil, for five or six days longer.

In the first obscure stage in which the puerperal fever is ushered in by paleness of the surface and oppression, or by a pretty distinct attack of rigor, the animal heat is almost always below the natural standard; and it is of great consequence towards lessening the degree of the subsequent excitement, that the natural temperature of the surface should be as rapidly restored as possible. When a tepid bath, therefore, can be speedily obtained, it frequently has an excellent effect, if it can be used without fatiguing the patient; and where that cannot be speedily had, the blandest tepid drinks must be recommended, and warm bottles of water put to the feet and stomach, which are good substitutes for restoring the circulation of the surface, and relieving the internal organs from an over-pressure of blood. An enema should be first ordered, and a dose of castor oil afterwards by way of more effectually clearing the bowels. All kinds of diffusible stimuli ought to be ex-



pressly prohibited at this period, for they are extremely pernicious. The animal heat having been restored, and the character of the disease developed, not an instant of time ought to be lost in attempting to arrest it: and even in those cases where some doubt may exist respecting the actual presence of inflammation, it is better as a general rule, to bleed at once; for by trusting to a purgative, or to some other secondary measure, the patient may thereby be lost from the delay, and even in ordinary fever occurring in child-bed, no harm can result from early and moderate venesection. In the excellent letter with which Dr. Joseph Clarke of Dublin has honoured me, he has inculcated a doctrine in some respects different from this, in suspicious cases; but so fixed, by experience, is my conviction of the utility of blood-letting, whenever there is a marked tendency to fever in child-bed, that it becomes an imperative duty in me to enforce it without the least reservation.

In acute diseases, it has been too much the practice to confide in one principal measure, but in general they may be best removed by a

series of antiphlogistic measures. Although strenuously insisting upon the utility of venesection at an early period in the stage of excitement, yet it was never my intention to affirm, that it is of itself generally equal to the removal of the puerperal fever. On the contrary, it has commonly failed in my hands unless followed by free purgation; and on inquiry, too, I find, that the patients of those authors who adopted venesection generally died, when the purgatives did not act at all, or only imperfectly. It is not, then, simply bleeding and purging in which I have so much confidence, but in copious bleeding, immediately succeeded by copious purging, or rather in the powers of these two means simultaneously exerted on the disease at the onset.

It has already been noticed that the puerperal fever often remits at the beginning of the second, and at the end of the third day, and, as such a calm is often the prelude of another and more serious attack, laxatives should rarely be intermitted till after the third day. The quantities of excrement discharged in the course of this complaint are frequently so very great that

nurses, and even patients themselves, often strenuously oppose a regular perseverance in the use of laxatives, conceiving that such extraordinary evacuations can neither be necessary nor useful; but appeals of this nature must never turn the practitioner from his purpose, and so long as there are pain and tension of the abdomen, a quick pulse, and offensive stools, he must steadily proceed, unsubdued by remonstrances, however urgently made.

When the stomach, as occasionally happens, is so excessively affected in commencement, that almost every thing taken is immediately rejected, the case may be considered violent, and it strongly indicates the necessity of liberal blood-letting, which at once tends to lessen the disorder, and to allay the irritability of the stomach. Immediately after bleeding, however, a large cathartic enema should be administered, as evacuating the lower part of the intestines is favourable towards the retention of the purgatives afterwards exhibited; and in such examples calomel in mucilage will be more likely to be retained than any other,

especially if combined with a little opium, which does not tend to constipate in inflammatory affections of the abdomen, as I have witnessed in numerous cases. The bowels having been completely opened, the sickness will most frequently abate; but if it should not, it is a sign of some visceral mischief, which demands the prompt use of the lancet.

When the pain is very severe, flannels, wrung out of hot water, applied to the belly, as warm as the patient can bear them, sometimes afford considerable though brief relief; and, being satisfied with their effects, I have never ventured to try cold applications, notwithstanding they have been favourably reported by a very judicious physician.\* But I must here observe, once for all, that fomentations, and every species of topical application, are only secondary means at the best, and ought not for a moment to make the practitioner lose sight of the main part of the treatment, viz. copious vene-

\* See a Paper by Thomas Sutton, M.D. in No. XXXV. p. 318, of the Edinburgh Medical and Surgical Journal.

section, and early, active, and repeated purging.

When a fever is known or supposed to be contagious, many practitioners object to the bare proposal of general depletion, and especially when such an affection attacks a woman in child-bed, the exhaustion induced by delivery, and the additional debility supposed to be the consequence of contagion, strongly inclining them to adopt the gentlest measures. But, if we consider, that there is a great change produced upon the system, by the return into the circulation of a portion of the blood which supported the foetus, that the weakness succeeding parturition, so far from preventing, is the very state in which phlogistic diseases most readily take place; and above all, that the puerperal fever is invariably attended by an active abdominal inflammation, no fears about debility and contagion should deter us from depletion, the only remedy in this formidable malady. It is not, however, in the partial adoption of the means recommended, that success will be found. Small bleedings and partial purging may weaken the patient, but will not remove the disease;



whereas free bleeding and active purging will subdue the disease, and leave nothing but mere debility to be counteracted.

It is not possible to fix, with propriety, the quantity of blood that should always be drawn in the puerperal fever, for that must vary according to the effects produced; and it may always be held as a practical rule of the first importance in blood-letting, that it is the effect produced, and not the quantity drawn, which should regulate us in its employment. The great object of bleeding in the puerperal fever, and the remark may be extended to other inflammatory affections, is to arrest the general excitement, and the topical inflammation; and of the arrestation of the former we judge by the decline of the fever, and of the latter by the cessation of pain. So long, therefore, as the stage of excitement exists, combinedly with local pain, so long may the use of the lancet be indicated; but if one bleeding checked both, it would be manifestly absurd to proceed further, and to stop short where it did not give relief, would be a weakness that might be followed by fatal consequences. When bleeding subdues

the pain, and the pulse notwithstanding continues to be quick and the fever urgent, some latent inflammation may almost always be apprehended, and in such cases a repetition of the lancet will commonly be necessary; for unless the increased action of the heart, and the increased heat be removed, some deep visceral disorganization will mostly be effected, from the mere continuance of the general excitement.

In certain patients, one early and decisive bleeding will be found quite sufficient, with the aid of purgatives, in others two may be required, and there are some, where the operation must be even oftener repeated. In first venturing upon the depletory practice, I rarely durst go beyond one blood-letting, but finding that sometimes fail, a second was tried from a sort of necessity, and thus experience gradually led me to pursue the mean till the end for which it was adopted should be answered. To confirm by actual facts how much bleeding requires to be varied, it may be observed that in the epidemic which occurred in the North of England, one very timely and very free bleeding was all that was required in many

instances, when followed up by active purging; but cases occurred which could not be removed without a second, though beyond this the operation was rarely necessary, so far as my inquiries have extended. Since then, however, I have met with some epidemic and sporadic cases where little or no alleviation of the urgent symptoms took place till the third blood-letting, and in a few the operation was more frequently necessary. It would appear in what has been called the hospital puerperal fever, which authors have deemed the most typhoid and malignant form of the disease, that as active a treatment is demanded as in any other modification; at least I shall now adduce some cases, and some communicated facts which may show how much that complaint is under the influence of depletion in the commencement.

Through the kindness of my friend Dr. Davis, to whom I am peculiarly indebted, the Managers requested me to attend a Public Institution, where the puerperal fever had appeared, in the absence of the medical officers upon whom the duty more particularly devolved.

In entering upon this office, I found one patient convalescent, and another labouring under the disease rather urgently; but as both cases were interesting, it may not be useless to detail them, before those which afterwards happened.

Early on the 3d of October, 1818, Elizabeth Serjeant, a single woman aged 22 years, was delivered of her first child. The labour lasted nine hours, and produced much apparent suffering. Her temper was particularly irritable, and about eleven o'clock at night the pulse was 110 in the minute; but though several smart rigors had previously occurred, she made no complaint, except of abdominal tenderness on pressure. At three the next morning, however, she had pain in the belly, which was continual from that time; and at eight, the pulse was 100 and strong, the skin moist, the tongue whitish and moist, the thirst great, the lochia perhaps rather sparing, and much pain existed on pressure in the abdomen, particularly in the hypogastrium, attended with swelling and tension of the umbilical region. About thirty ounces of blood were drawn when it ceased to flow, and her lips became pale, yet she would not

allow that the pain was much relieved. Five grains of calomel with eight of the extract of colocynth were administered, and as these had not operated at noon, about an ounce of castor oil was exhibited. At three o'clock in the afternoon no stool had occurred, and there was exquisite tenderness on pressure of the abdomen, especially of the right iliac region. The pulse was then 108, the tongue moist, and the skin hot and dry. The common cathartic enema was immediately injected, a large blister applied over the abdomen, and eighteen grains of the blue mercurial pill, with half a drachm of the compound powder of ipecacuan were made into six pills, one of which was ordered every fourth hour, with a little of a sudorific mixture. By ten o'clock that night, the bowels had been very freely opened, and there was then no abdominal pain whatever; but she had displayed much irritation of temper, and used even violence to the nurse. The tongue and skin were both moist, and the pulse was about 136 in the minute.

On the 5th no pain existed, and she had slept tolerably. The tongue was moist, the skin dry,



the pulse 120, and the belly much swollen. The blister had done its office well, the milk and lochia were secreted, and the bowels had only been once opened. She had saline and sudorific medicines, and castor oil when necessary, till the 7th, when she complained of general headache, and on the 8th, she became decidedly maniacal. The lochia continued to flow, but the milk was diminished. There was now neither pain of the head nor of the belly. The strait waistcoat was put on, a cold lotion applied to the head, and repeatedly small doses of the sulphate of magnesia given, in order to move the bowels. She slept well, and on the morning of the 10th the face was suffused with an erysipelas which had been gradually increasing for about two days previously. Two scruples of the cinchona were ordered every three hours, with a diet of broth, bread and milk. The bowels continued very open under the use of the cinchona, the erysipelas began to subside on the 12th, and by the 15th the mind was perfectly distinct. In less than a month from her delivery she was enabled to leave the Institution quite well. The two most remarkable circumstances in this case

were, the great relief which free purging afforded after a very copious venesection, and the apparent translation of disease afterwards, first to the head, and then to the face. It is well known, that erysipelas and the puerperal fever often prevail at the same time: whenever this happens, more than ordinary attention should be paid even after the subsidence of both; and perhaps one of the best modes of guarding against visceral attacks of erysipelas, is to blister the surface, which was accordingly done towards the close of this case.

Martha Besant, a married woman, aged 25 years, was delivered of her second child on the 1st of October. On the night of the 9th she was attacked by fever, and bearing down pain in the hypogastrium. The pain soon left her, but was reported shortly to have returned. She took nearly an ounce of castor oil, some infusion of senna with the sulphate of magnesia afterwards, was fomented over the abdomen, and obtained ease, sleep, and one evacuation by the bowels. About nine o'clock, however, on the morning of the 10th, the pulse was 111 in the minute, accompanied with pain

and distension of the abdomen. The tongue and skin were moist, and the lochia as well as the milk secreted. Venesection was now employed till it nearly produced fainting. Three hours afterwards the pulse was reduced to 96, the skin was cool and moist, and three fetid, greenish stools had been passed ; but still some pain of the belly existed on a moderate inspiration. One grain of opium with a saline draught, was ordered every sixth hour. About bed-time, she was attacked by most acute abdominal pain, bled as liberally as before, and took two grains of opium during the night. The next morning at eight, some pain still remained on deep inspiration, for which fomentations were used. The pulse was 102, the skin moist, the tongue dry, the milk suppressed, and the belly bound. At two o'clock in the afternoon the pulse had risen to 120, and there was exquisite pain of the abdomen, though she could extend her limbs without increasing it, which mostly cannot be done, particularly if the limbs be suddenly extended down. It was at this period that my attendance upon the Establishment commenced.

Though the disease had existed so many hours, and though the patient had been twice copiously bled, yet the urgency of the symptoms seemed still to require the lancet; and she was therefore bled again till she fainted, about sixteen ounces of blood having been drawn, which was very buffed. This operation softened and reduced the pulse to 104, and moistened the tongue and skin; and it may be observed, in passing, that blood-letting will often make a dry tongue and skin immediately moist, especially when it induces faintness. The patient was ordered a cathartic enema, ten grains of calomel, and repeated doses of an infusion of senna with the sulphate of magnesia, till she should be freely purged. But as some pain remained, she was again bled an hour after to about six ounces, which rendered her faint and did not entirely remove the pain. The pulse was 112, before and after the operation, and it was found still the same at ten o'clock in the evening, when the tongue was clean and moist, the countenance good, the skin warm and moist, and she complained of no pain whatever. Yet she had rather a watch-

ful night, and on the morning of the 12th slight pain existed on pressure near the umbilicus, and the eyes felt sore, without any degree of ophthalmia. The lochia had ceased, but some milk was secreted, and many fetid, light yellow, oily evacuations had been passed. The pulse was 104, the tongue and skin dry, and she had much thirst. One grain of opium was now ordered, with the expectation, that it might excite perspiration, and allay irritation. The pain in the abdomen returning, with increased and general uneasiness, she was bled to faintness, at eight o'clock in the evening, and the blood drawn buffed rapidly. She twice or thrice vomited apparently bilious matter. After venesection she said, that "she had still a catch at the navel," on taking a deep inspiration. The lochia returned, and a commencing erysipelas was observed on the face. One grain of opium was exhibited. An hour after the operation, there was such decided abdominal distension, with uneasiness on pressure, that I was induced to order venesection once more, but only a trivial quantity of blood could be drawn, which was however still buffed, though not cupped. Twelve grains of calomel with one of opium were given, and



castor oil directed to be repeated afterwards, till the belly should be most freely evacuated.

At eight o'clock the next morning there was no pain, but still distension of the belly, and the medicine had occasioned many stools, which were of a light yellow colour. The pulse was 95, while the respirations were only eight or nine in the minute; a loss of relation, however, on the right side in such a case, as it at least showed the absence of irritation, which quickens the breathing. The tongue was very dry, but the skin moist, and therefore it might be presumed that the dryness of the tongue had been produced by the purging; an effect of purgative medicines more common than many authors have imagined in febrile diseases. At ten o'clock in the evening the tongue was moist about the edges, and the skin remained as in the morning. The pulse was 90, and the respirations were 22 in the minute, nearly a natural relation. To use her own expression, however, the patient had a *twitch* near the umbilicus. Three grains of calomel, two of camphor, and one of opium were prescribed in pills, a blister applied to the epigastrium, and castor oil directed to

be taken early in the morning. At eight o'clock the next morning, the pulse was only 86, at one it was 99, and the respirations were 14 in a minute. She had then had one stool, there was neither pain nor distension of the belly, and the general expression was good. The pills of calomel, camphor, and opium were repeated at bed-time, and the castor oil ordered for the next day as before. She slept pretty well in the night, and on the 15th, the pulse was 94, and the respirations 12 in the minute; but though no abdominal pain existed, and the bowels were free, a blister was applied to the sternum, in order to guard against a translation of the erysipelas which still remained on the face. She again slept at night, and in the morning of the 16th had no abdominal pain, but the erysipelas was very painful, the pulse 118, and the tongue very dry. Castor oil was ordered to be repeated until the bowels should be most copiously moved. She continued to go on pretty well under the use of the aperient, but on the 19th she had a pain in the diaphragmatic region, for which a blister was prescribed, and an anodyne with a sudorific draught. She slept well in the fol-

lowing night, and the next morning reported herself free from pain, refreshed, and at ease. Soon after this period, she was most decidedly convalescent from the fever; but she was attacked with that inflammatory disease, called the phlegmasia dolens, which yielded to local bleeding by leeches, and to purgative medicines. After the removal of this affection, however, she had a profound prostration of strength for some days; yet on the 21st of November, she was discharged from the hospital, cured and able to walk.

This patient was bled four times pretty copiously, and twice scantily, during the existence of the puerperal fever; so that in all she probably lost nearly eighty ounces of blood, before the abdominal inflammation was completely subdued. Those cases of the hospital puerperal fever which are upon record would seem to indicate clearly that if there be any difference between it and the ordinary form, the difference consists in the greater intensity of the former; and it was this which determined me, as the patients were young, to pursue depletion until a marked relief should be obtained,

being confident that half measures would only waste the strength without arresting the disease. Yet the following case will show, that the most active treatment will sometimes fail, particularly where a few hours are lost in the beginning, and where an organic affection happens to be complicated with the fever.

A. R. a married woman aged 26 years, was delivered of her second child on the 13th of October, about ten o'clock at night. During her pregnancy she had pain in her right flank and back. At eight o'clock on the evening of the 14th, the pain of the flank became more acute, and the pulse much quicker, being then 150, and perfectly distinct. Her bowels had been freely opened on the previous day by about an ounce of castor oil, and as she was then in a most profuse perspiration, it struck me, that a full anodyne might alleviate the pain, promote the perspiration, and thus carry off the excitement under which she laboured. But at seven o'clock the next morning, the pulse remained so high as 148, the pain was more diffused, the tongue very dry, and she had obtained no sleep from the opiate. About twenty-four

ounces of blood were drawn, the crassamentum of which was much buffed; but no relief followed, and the tongue remained as dry as before, a circumstance which seemed to mark an unusual severity of attack. Three hours afterwards she was again bled *ad deliquium*, and about the same quantity of blood abstracted as before, which however was less buffed. The tongue became moistened from this venesection, yet the pain was not totally removed. A cathartic enema was immediately injected, one scruple of calomel with three grains of opium exhibited, and an aperient mixture of senna and salts was directed to be frequently repeated, till it should act liberally on the bowels. As the abdominal symptoms were still urgent, she was bled to about twelve ounces, five hours after the second operation, and twenty-four leeches were applied to the abdomen, and a blister to the epigastrium. About ten o'clock at night, the pain had not quite subsided, but she bore pressure better, the pulse was 120, the tongue moist, and the skin cool. Another scruple of calomel was given with two grains of opium, a blister put to the epigastrium, and the purgative mixture was directed to be resumed four hours afterwards.



At six o'clock on the following morning the pain and tenderness of the abdomen remained, though in a subdued degree. The pulse was 138, the tongue moist, and she complained of head-ache. Two copious stools had been procured from the purgatives, but as it seemed most desirable to induce further evacuations ten grains of calomel and the same quantity of jalap were exhibited, and the mixture ordered to be very frequently given, till copious motions should succeed. The abdomen was fomented, and twenty leeches were then applied over it, and also reapplied at one o'clock, with a blister to the sternum on account of the continuance of pain. At nine o'clock in the evening, the pulse was 130, and very soft. She had pain in the belly as of colic unaffected by breathing, was restless, and apparently much exhausted. Forty drops of laudanum were prescribed at nine o'clock, one grain of solid opium at eleven, and another four hours afterwards. She slept well and the next morning had no pain, breathed freely, lay in an easy posture, the pulse had fallen to 122, was fuller as well as stronger, and the bowels were opened, but she vomited her diet drink for the first time, the lochia were now suppressed, and

the tongue was brown and dry. In the forenoon the pulse was once as low as 102, at mid-day it was 122, and at nine o'clock in the evening, it rose as high as 138, and was then strong and jerky. She had great pain in the back, shrunk much on the slightest pressure over the belly, and was highly irritable. There had been repeated vomitings, and the tongue in consequence was moist. She was again bled nearly to faintness, a carthartic enema administered, a scruple of calomel prescribed with two grains and a half of opium, and a purgative mixture, which was to be repeatedly administered four hours afterwards till copious stools should be procured. The blood drawn was exceedingly buffed. It eased her, and she slept. But at seven o'clock on the morning of the 18th she still shrunk on pressure, she had passed several copious stools involuntarily, and her countenance was anxious; but no vomiting had occurred from the time which she took the calomel and opium, and the pulse was only 118, strong and resisting. Throughout the day, she became extremely restless and irritable, and complained much of the blister; at six o'clock in the evening her pulse was exceedingly quick,

and as she was still very restless, twenty drops of laudanum were given, which quieted her for about an hour, when she again became restless, and gasped as if for air. Her voice continued loud, and her movements strange and hurried up to nine o'clock, when she attempted to leap from the bed and expired.

The body was examined ten hours after death. About nine ounces of serous effusion was found in the abdomen, and a few bands of lymph united the hypogastric convolutions of the intestines. The bowels were very empty and contracted, except that the commencing colon was distended by gas. A patch of purple congestion was discoverable here and there on the peritoneal and villous coats of the intestines. The spleen was unusually small but sound; the liver and kidneys were also in a natural state. The portion of the peritoneum which invests the uterus was inflamed, especially near the lateral vessels, and the exterior and interior of the bladder was of a similar pink colour. Much organic disease existed in the rectum, which was thickened, rugose, very contracted, and green on the inside, with subjacent and

injected vessels dimly seen through this green lining. This peculiarly coloured appearance was equally marked in the cœcum, and commencing colon, and most probably extended throughout the whole colon, though a circumstance occurred to prevent us from ascertaining whether this was really the fact. In the chest, no derangement was visible, except the remains of previous disease, namely, adhesion of the whole right lung to the surrounding parietes. The brain was perhaps firmer than natural, its larger vessels well emptied, but the choroid plexus, and the pia mater of the inferior surface of the cerebrum and cerebellum, especially of the latter, were vividly red.

Besides the pain in the right flank which this patient stated to have subsisted during gestation, she also subsequently declared, that she had suffered during the whole of her pregnancy inconceivable pain “in the bottom of the back and in the inside.” She only made this statement however at a late period of her disease, but it elucidates the morbid appearances of the rectum, and colon. This case was exceedingly embarrassing to me on the outset on account of

the pain which existed before and during pregnancy; and though the organic disease discovered after death satisfied me, that no treatment could have availed, yet a mistake was committed, which requires to be pointed out for the sake of others. On the evening of the 14th of October the pain became more acute, and was attended by a marked acceleration of the pulse; but the skin was so moist, as to induce me to exhibit an opiate, under an impression that the fever might be carried off by perspiration. Instead of this procedure, she should have been bled without a moment's loss of time. In such a disease as the puerperal fever, the delay of a few hours in the beginning may make all the difference between failure and success; but as I fell myself into an error of this kind, it may serve to prove how much more easy it is to give directions to others than to follow them ourselves. If I had been aware of the existence of an organic disease in the rectum, I certainly would not have prescribed calomel at all, much less in such large doses, but respecting the operation of this medicine some remarks shall be made in the sequel. Considerable irritation occurred towards the close, attended with very



violent exertions of the muscles; and perhaps, as a last resource, opium should have been given more freely, and physical force mildly applied to restrain the motions. Irritation and muscular exertion are frequently the immediate causes of death, in diseases where great exhaustion exists, and particularly if much blood had been previously lost; and hence we often see after uterine hemorrhage the greatest danger result from the combination of irritation and exhaustion, and we find the greatest advantage from opium, and from keeping the body quiescent by every precaution. Now it is not impossible but the exhaustion and irritation which supervened in the last stage of this case may have been connected with the previous loss of blood, which was upwards of 80 ounces in four days; though I cannot take upon me to say whether that exhaustion and irritation might have been removed by opium and mild restraint, and only mention the circumstance here to put others on the watch in future, if they should be similarly situated. Nothing is more painful to my feelings than the review of unfortunate cases, for I generally imagine that something might have been avoided or added for the better

in the treatment; yet it is our duty to publish such cases much more frequently than is done, since our recorded failures may serve to guard others from the wreck which we ourselves have witnessed.

Lydia Jutt, a single woman, aged 23 years, was delivered of her first child on the evening of the 15th of October, after an easy and rapid labour. On the night of the 17th she was attacked with rigor, succeeded by fever, headache, abdominal pain with tenderness, and the pulse rose to 120 in the minute. As soon as these symptoms were fairly developed, about three hours after delivery, she was bled copiously *ad deliquium*, after which ten grains of calomel with ten of jalap were given, and followed up, two hours afterwards, by repeated doses of the sulphate of magnesia in an infusion of senna. These medicines produced many copious evacuations. The pulse, which before the bleeding and purging, was 120, had fallen to 100 by the morning of the 18th, there was then no pain of the belly, and the tongue and skin were moist. In the course of the day a blister was applied between the shoulders, and an ounce of castor oil ordered, the first as an irritant to

divert inflammatory action to the surface, and the last to keep the bowels free, which had only been once moved that morning. The inflammatory symptoms of the abdomen returned, however, on the night of the 18th, and she was bled again to fainting. The blood was very buffed. Castor oil and draughts of the sulphate of magnesia and infusion of senna were given until she was plentifully purged. She slept in the night, and at seven o'clock next morning, she had no pain, the pulse was 115 and very soft, the tongue clean and the skin moist. She remained free from uneasiness till the 22d, when she was attacked by fever and head-ache, for which she was bled to faintness with complete relief. An opiate was given at bed-time, she slept well, and from that time continued convalescent, till she was discharged from the hospital cured, about three weeks from her confinement; her bowels however during that term having been kept free by gentle laxatives, with now and then a smart cathartic. In this instance the effect of copious bleeding\* and purging was as highly favourable as the most sanguine expectations

\* In this case probably upwards of 50 ounces of blood were drawn in the three operations.

could have anticipated ; and they were equally so in the following case, if allowance be made for its more formidable character.

Sarah Rock, a single woman, aged 19 years, was delivered of her first child on the 21st of October, after a labour in which she rather suffered from the resistance of the soft parts. About nine o'clock on the morning of the 23d she was attacked by a rigor of an hour's duration, succeeded by some pain of the head and loins, with a soft, weak pulse, upwards of 120 in the minute. She took an ounce of castor oil. The head-ache and lumber pain disappeared but she had pain in the region of the uterus, especially on pressure. Venesection was ordered at noon. When about ten ounces had escaped, the blood ceased to flow, and the pain had totally departed. A purgative enema was prescribed, and also another ounce of castor oil. At six o'clock in the evening she was again bled *ad deliquium*, on account of abdominal pain and tenderness, with a return of the head-ache. The pulse continued to be exceedingly weak, and 138 in the minute, she lost the head-ache after the second bleeding, though she still had pain on

pressure in the hypogastric region. Four copious, fetid, and somewhat solid stools were passed, of a pretty natural colour. The mixture of salts and senna was ordered to be frequently given, till it should operate. But as at ten o'clock at night no further evacuation had been procured, and as symptoms of abdominal inflammation existed, half an ounce of castor oil was given every hour, that an action on the intestines might be promptly and plentifully established. Two hours after midnight the symptoms remaining the same, she was again bled freely and to fainting, took two grains of opium, and almost immediately afterwards, she displayed some delirium, which however was soon removed by sound sleep. At eleven o'clock the next day, the pulse was only 90, the skin warm and moist, and the bowels open. She had no pain of the abdomen on forcible pressure, lay upon her side, breathed easily, and had a tranquil expression of the countenance. She slept well on the next night, and the pulse was only 86 on the succeeding morning, and she had no pain whatever. From the 25th to the 29th of October, the symptoms remained highly favourable; but on the latter day she had head-



ache, quick pulse and quick breathing, for which an enema, some castor oil, and an infusion of salts and senna were prescribed; but though these moved her bowels, the head-ache continued to be harassing, and she was therefore again bled *ad deliquium*, and her bowels were freely opened. She took two grains of opium at five o'clock on the morning of the 30th, slept soundly afterwards, and from that period recovered apace.

This case gave me considerable anxiety, because it commenced and continued with a quick, weak, and soft pulse, which is always an unpleasant attendant; since combined weakness, softness, and quickness of the pulse show an unusual relaxation of habit, and in all inflammatory diseases is much more to be dreaded than a strong resisting pulse in the commencement. The first bleeding was employed about three hours after the commencement of the disease, the second three hours after the first, and the third eleven hours after the second; so that in about fourteen hours faintness was thrice induced, and she had lost about fifty ounces of blood, and the bowels had been freely opened.

The fourth bleeding was five days after the third, and removed a head-ache and general excitement which probably threatened a relapse of the original disease ; at least I have seen such an excitement, when allowed to pass on, reproduce all the symptoms of abdominal inflammation at last, though at its onset it was unconnected with inflammation. Another but much milder case occurred nearly about the same period, but in it bleeding was only once necessary, with the co-operation of purgatives. Independently of these six cases of the puerperal fever, I have seen four in private practice, in the first of which, bleeding was four times used to the total amount of about fifty ounces, in the second, thrice to a similar quantity, in the third, twice to the total amount of about thirty ounces, and in the fourth, between twenty and thirty ounces of blood were abstracted at once ; but in all these four cases, purgatives were liberally employed in the beginning, and in two of them leeches applied to relieve local symptoms, and also opiates administered to allay general irritation. From these facts, then, it appears that even in London where child-bed fevers are said to be more fatal than in the country, only one

case in ten has terminated mortally under the depletory practice: and as that case was combined with an old organic disease, one would perhaps be led to hope, that the mortality in general might not be more, where the disease is fairly met and encountered from the beginning; for after all the general result will in a great measure depend upon this circumstance, and it ought again and again to be reiterated, that unless the disease be early met, the mortality must be much greater. But there are some practitioners who, from unconquerable peculiarities of their mental constitution, think that they pursue depletion properly when timidly adopted in the beginning, or perhaps rashly towards the close when universal relaxation exists; and a conscientious impression being thus left upon their minds, that depletion is not so successful as has been reported by others, its utility by them is never fairly estimated, merely because it has never been fairly tried. It is right, however, to mention, that all the subjects of the above ten cases were women in the vigour of life, and likewise tolerably robust, with a single exception; and therefore, with that one exception, the depletion was

employed in constitutions highly favourable for its efficacious influence. When this disease attacks women who are broken-down by repeated child-bearing, or any other cause, they stand a much less chance of recovery in the main run. The same principles of treatment, however, obtain in them, yet those principles require to be modified in their application, inasmuch as similar effects upon the constitutional excitement and the topical inflammation would be produced by a much less amount of evacuations ; and as the constitutional excitement and topical inflammation not only run a more rapid course in such cases, but are followed by greater relaxation of the whole habit, there is more necessity for at once cutting them short at their first invasion.

The cases of the hospital puerperal fever which have been detailed, and which similar ones preceded and followed, were considered as contagious by a practitioner of great talent and experience, who was attached to the Institution where they appeared ; and in St. James's Infirmary, a similar disease occurred about the same time, which was successfully treated by similar means,

as will be seen from the excellent letter of Mr. Alcock in the Appendix. From what I have myself observed of the hospital puerperal fever, it would appear to me as controllable as any other modification of the disease when accompanied with general excitement and topical inflammation. In confirmation too of this opinion Dr. Gooch, whose experience in the hospital puerperal fever has been so extensive, recently told me, that though he had seen more formidable cases in hospital than in private practice, yet even in the former he had lost very few. From all he has seen of the disease, he has been led to the conclusion, that the only effectual remedies are bleeding and purging very boldly and very early employed: but he considers, that these measures used moderately at this period do little or no good, while used late they do harm, especially bleeding; and he has observed, the curable stage, in many instances to pass over so rapidly, that unless the first approaches of the disease be detected, cases will now and then be lost, which might have otherwise been saved. Indeed, upon this point, I could accumulate evidence, from some judicious accoucheurs, who have reported to



me their success in the Public Establishments which they attended ; and I must not forget to mention in particular, that Dr. Ramsbotham has long and advantageously employed bleeding and purging in the various forms of the puerperal fever, as presented to his observation in the metropolis. When any strong contrast arises between present improvements and past prejudices, some men pretend that the disease in question is not the same now as it was formerly ; so reluctant is the human mind, in certain instances, to humiliate itself by acknowledging as erroneous what it has long considered as right. But an accurate investigation would distinctly prove, that the puerperal fever has undergone no change in its nature, the change being wholly limited to our pathology and treatment.

In his Lectures, when speaking of the puerperal fever, the late Dr. William Hunter used to say—“ Treat them in what manner you will, at least three out of four will die. Upon examining the uterus, the viscera, and every other part are found to be inflamed. There is a quantity of purulent matter in the cavity of the abdomen,

and the intestines are all glued together. The disease rages so violently, that every process of nature is set aside; and there is no secretion of milk in the breast. From what I have seen at different places, and in my private practice, this fever often happens; and yet when it does, it is the only case in midwifery in which so little is to be done. I would observe then, first, that in the hospital I have seen a great many of these, and particularly in one year, when it was so remarkably prevalent there. It was so bad, that not only every gentleman belonging to the hospital, but all our friends in town had a consultation to think whether it was not better to shut up the house. In two months thirty-two patients had the fever, and only one of them recovered. We tried various methods. One woman we took from the beginning and bled her, and she died. In another, we gave cooling medicines, and she died. To a third we gave warm medicines such as confect. cardiac. cordial julep, mithridate, &c. and she died. We tried these to save their lives, but every thing failed.”\*

\* A part of this passage, which Dr. Gooch favoured me with, has been cited by Boer, a German writer on Midwifery, who imagined that he had found a specific for this disease in one of the preparations of antimony.

If the puerperal fever were now treated in the same vague way as in the above inflammatory modifications, it would be equally fatal in our experience as it was in that of Dr. William Hunter; and as he was an individual of transcendent talent, it is gratifying to reflect, that the advancing state of medical science has enabled us to succeed in a point where even his genius failed. In conversing upon the subject of the puerperal fever, I have occasionally known practitioners to assert in general terms the utter inefficiency of bleeding. But the moment that I began to enter into particulars it was discoverable, that with them bleeding was a term to which they attached a very different meaning from myself; and that, like Dr. Leake, they talked of having bled copiously when a few ounces of blood only were drawn, without any strict regard to the stage of the disease, or to the effect produced. It is to be regretted, in the records which we possess on febrile diseases, that authors have seldom stated with minuteness how much and how often blood had been drawn, nor given an account of all the symptoms present at each operation; for if we had been possessed of this information, we should have been enabled to

discover why some failed and others succeeded, and thus to reconcile those discrepancies of opinion which to some have seemed inexplicable. Were it possible, that the leading physicians in Europe could at this moment declare bleeding to be prejudicial in the beginning of the puerperal fever, attended with general excitement, I would enter my firm protest against the declaration; because whatever respect I might feel for such an united authority, it could not, and should not prevail for an instant against the plain evidence of my senses. But if any one were to affirm that bleeding was inadmissible, when the general collapse is fully established in the puerperal fever, then I would cordially join with him in the opinion, nay go even further, and assert the same thing of the inflammatory form of typhus, and indeed of every other inflammatory disease.

In the treatment of the puerperal fever it will sometimes be found a point of great difficulty to determine with precision whether a vein ought to be opened or not when the practitioner is consulted rather late than early in the attack; for though it has been tried in the

preceding pages to mark the stage of excitement from that of collapse, yet the shades of difference are not always so distinct as to be clearly perceptible; and as peritoneal inflammation and pyrexia occurring in the child-bed state often remarkably depress the vital powers in the acme of their intensity, we should be cautious not to deceive ourselves by affixing too narrow a limit between the stages. On the other hand, especially when we have previously bled, we should not carry our prejudice in favour of the lancet so far as to induce us to employ it when the universal collapse has obviously succeeded the excitement; since such temerity could only tend at once to sink the system under the shock of depletion, or at the least to increase a general irritation which would accelerate the mortal issue of the case. Much must at all times be left to the discretion of practitioners, since it is impossible to embody in books all that can be observed at the bedside, respecting those nice distinctions of symptoms upon which a good or bad practice may be founded; and even if any one could embody all that he has himself impartially observed, still there is often something in the mind of



others which, unconsciously to themselves, gives an accustomed and a favourite colouring to most of their impressions. Some men have naturally such a decisive turn of intellect, that they are always ready to avail themselves of any single symptom which would appear to justify a bold practice, while others again are so constitutionally timid as to lean, in like manner, to any symptom which might favour a mild mode of treatment; and though it may be difficult, yet it is not impossible for a man so to regulate his mind as to be bold or cautious, according to the existing circumstances of the cases to which he may be called. It would, however, have been of considerable advantage to us if the circumstances, under which evacuations succeeded or failed, had always been pointed out, together with the measure, mode, and time of those evacuations; for then, with more precision than at present, we might have estimated the power of this practice in the beginning and intermediate states, while we should also have been more guarded against its abuse in the very last stage of the disease.

When from a cautious survey of all the

symptoms there are grounds to believe, that the stage of excitement is past or upon the point of declination, every thought of general venesection ought to be abandoned; and if any measures can then save the life of the patient, which indeed is most doubtful, laxatives and opiates are by far the most likely, together with light nutritious food exhibited in small quantities at once. But it must be always recollected, whenever a highly inflammatory disease has unimpededly run its course, that the vital organs are generally somewhere wrecked towards its conclusion; so that if it were possible, at that advanced period, to abstract whatever remains of fever may be present, the patient would most frequently die from the organic mischief previously induced. Yet now and then a remarkable recovery does take place from the last stage of the puerperal fever, even when no proper measures had been used in the first. An instance of this kind once fell under my observation, in which an opening took place spontaneously at the navel, after the patient had struggled several days in extreme irritation and exhaustion; and the turbid serum and coagulable flakes, effused into the ab-

domen from inflammation, were evacuated at this opening, which finally closed, and the long continued hectic ceasing, the patient got quite well at last.

But there are instances of exceeding delicacy where depletion has been employed in the first stages, and where it is difficult to say in the last whether the danger depends upon derangement of structure and function, or upon mere nervous irritation and weakness; and in all of such doubtful cases, the best thing that can be done is to attempt to allay the irritation by full doses of opium, and to remove the weakness by light nutriment, since irritation and exhaustion may sometimes be the causes of death. Once I was consulted for a lady deemed to be dying of the puerperal fever, after copious venesection and purging had been most judiciously directed in the outset. When I saw her the face was ghastly pale, the pulse small and tremulously rapid, she gasped anxiously for air, and shrieked out now and then from the pain of a blister which had been previously applied. Under some faint expectation that irritation might be the principal cause of her present suffering, the blis-

ter was removed, and a large opiate administered: she soon fell into a quiet sleep, awoke some hours afterwards with a soft slow pulse, a warm moist skin, and from that time recovered rapidly.

In the beginning of the puerperal fever, after evacuations, blisters have often an excellent effect; but in the advanced stages, the irritation which they produce may be dangerous, as I have more than once witnessed. Throughout the stage of excitement the patient should be lightly covered, and the room well but cautiously ventilated, the temperature of which should then rarely exceed 60° of Fahrenheit; but in the last stage when the animal heat, like the powers of life, suffers a diminution, the covering of the patient and temperature of the room should be warmer; while light and noise ought to be excluded as much as possible, for even the burning of a candle or the ticking of a clock, at such critical moments, might prevent sleep, or prove the cause of additional irritation. When the abdominal inflammation is of the acute kind it generally proceeds with great rapidity, so that in these cases, a few hours lost in the commencement may be fatal to the patient;

but when the force of such an inflammation has been broken in the beginning, and yet not subdued, it may still permit of further venesection, or at all events leeches may be applied to the belly, which are often excellent auxiliaries to general depletion. When the abdominal inflammation puts on the sub-acute character it is more slow and protracted, and of course admits of bleeding at a later period than the former; but in both laxatives or purgatives are always indicated so long as the excitement remains, and where there is room for doubt respecting bleeding, none in general may be entertained as to the propriety of their administration, particularly the former.

My correspondence and conversations with practical men have been extensive in regard to the puerperal fever, and, as I before hinted, those who have been most successful in the treatment of the disease trust chiefly to bleeding and purging in the early stages, but though they thus remarkably coincide in one great principle, yet there is a difference amongst them. Some practitioners are decidedly in favour of calomel and similar purgatives of the drastic



kind, whilst others are decidedly against these, preferring milder aperients, but especially castor oil, which they conceive to be better, inasmuch as it produces full evacuations without irritation. Perhaps an impartial and experienced critic might be inclined to think, that it was of little consequence what purgatives were ordered, provided an action was excited and kept up upon the bowels for a sufficient length of time; and yet as most purgative medicines have a peculiar as well as a common effect, this discrepancy of opinion may be more worthy of notice than might at first sight appear. In regard to castor oil, it is usually thought, that it merely evacuates what may be lodged in the bowels, without eliciting any secretion from their villous surface: but, when good,\* I have

\* What is called the East Indian castor oil, which is of a very pale colour, may be considered as a laxative only, but what is called the West Indian, which is of a dark colour, is strictly a purgative; and therefore in prescribing this medicine the practitioner should always keep this distinction in view, that he may order the one or the other as the occasion may require. Some practical chemist would render a considerable service to the profession by attending more minutely to the preparation of this oil than has hitherto been done; for the pale is sometimes scarcely laxative, while the dark is sometimes drastic, which shows how variously it is prepared. The fact is, that this medicine has been too little regarded, and its

generally observed, that it occasions as copious stools as almost any other aperient, and with much less irritation than most; and these two circumstances render it a most desirable drug in those abdominal inflammations where the intestines themselves are affected, and where it is a primary object to open the bowels with the least possible irritation. In the puerperal fever, however, it generally happens, that the bowels have been more or less neglected before parturition, so that scybala are not only retained in them, but their secretions are also morbid. Under such circumstances, one or two full doses of calomel will almost always be highly efficacious, and in most of those cases which have yielded with the greatest rapidity in my practice, this plan was pursued; the bowels having been kept regularly open afterwards by castor oil, or some similar aperient, until the stools became perfectly natural. If the laxative plan be omitted too soon, even when the abdominal inflammation has been subdued, the patients will mostly be liable to internal or external

operation too little understood; but it well deserves to be ranked amongst the most useful aperients, and is peculiarly fitted for many affections combined with abdominal irritation.

suppurations accompanied with pyrexia, and under these they may slowly sink, after the complete reduction of the original disease.

From Dr. Joseph Clarke's letter it will be seen, that Dr. Labatt, the present Master of the Lying-in-Hospital at Dublin, has sometimes found large doses of calomel, a scruple or half a drachm, produce alarming weakness, a tympanitic state of the abdomen, with vomiting and great irritability of stomach; and as I have never myself witnessed such effects from such doses in the puerperal fever, I have been the more desirous to give them publicity, lest any of the results of my own experience, in this disease, should be the mean of misleading others. In the puerperal epidemic, which prevailed in the North of England, the doses of calomel were gradually increased from the ordinary to the extraordinary ones above mentioned, because nothing less would move the bowels effectually in the onset; and as the disease was attended with a very high degree of febrile excitement, when the calomel was thus administered, the most salutary effects invariably resulted. But since then I have met with some

instances, where the excitement was less, in which ordinary operated better than extraordinary doses of calomel; so varied are the effects of this medicine by the circumstances under which it is given. In the fevers of warm climates the excitement generally runs much higher than in those of our country, and it is on this account, that we find such extraordinary quantities of calomel given not only without prejudice, but with positive advantage. Yet whenever the action of the heart, and the animal heat approach towards their natural state, then large doses of calomel may be highly injurious, from the great and universal relaxation which they are apt to induce in that condition; nay there may be certain states of the body, even in fever, where a similar relaxation is induced by large doses of calomel, and from what Dr. Labatt has mentioned, it would be desirable to ascertain what those states are, which modify its influence so remarkably. In the exhibition of calomel, as in the employment of blood-letting, it is to the effect produced that we must chiefly look, and if a desired effect can be produced by an ordinary measure, it is surely all the better; but

where the circumstances are so unusually formidable as to render an ordinary measure of no avail, then we must deviate from the common routine, and be bold in proportion to the urgency of the case.

The best way to ensure the operation of purgatives in the puerperal fever is to bleed freely at the first; and though having great faith in the anti-inflammatory powers of calomel as an alterative, yet in this rapid disease it is chiefly its purgative power which I would regard. In a very large majority of cases, the stools are rendered morbid from the primary seizure of the puerperal fever, and in such calomel should always be premised; but in those instances, which perhaps are exceedingly few, where the stools are natural from the onset, probably castor oil is in general preferable. No purgative changes the appearance of the stools more than calomel, and I believe, that many mistakes are committed from prescribing this preparation in order to render the evacuations natural; when in fact their morbid state, if not actually occasioned in the first instance, is at least afterwards maintained by the unnecessa-



rily repeated exhibition of this medicine. It is oversights of this kind which often bring the best agents into an unmerited disrepute ; and it cannot be denied, where calomel is improperly given, that it may sometimes produce an irritation and exhaustion fatal to the patient. My principle in the treatment of highly acute diseases is, to make a decided impression on them in the onset by powerful measures, and to treat them mildly towards the close ; but between the onset and the close an intermediate state of disease exists, which requires a treatment intermediate between those adapted to the first and last stage. However accurately generally principles may be laid down in books, still their successful application in practice must entirely depend upon the discernment of him who applies them ; and that practitioner will succeed best who most judiciously modifies the application of those principles by the stage of the disease, the age, previous habits, constitution, and other peculiarities of the sick. But it is necessary to turn from this digression, and to say something more respecting the changes, which purgatives induce on the appearance of the stools.

Erasistratus confidently maintained, that most purgatives altered the nature and colour of the alvine evacuations ; and though this remarkable fact has been disregarded in modern publications, where purgatives are constantly recommended, yet it is familiar even to nurses. Calomel often changes the stools to a greenish, or dark brown colour, and in fever not unfrequently produces those glary, oily dijections, which some have erroneously supposed to be pathognomonic of hydrocephalus when they occur in children ; indeed the nature and colour of the feces are so varied by calomel, as to render it highly probable, that some portion of it is decomposed in the bowels, either by the bile, or by other secreted fluids. The sulphate of magnesia tends to darken the stools, as likewise all prescriptions which contain sulphur : the infusion of senna, too, has a similar effect, and even aloes when given in solution ; but rhubarb renders the stools of a deeper red than natural, and castor oil generally shows them as they really are, while magnesia makes them lighter. These few hints are only given in illustration of the doctrine, which might be supported by many others ; and if it were necessary, it also might be easily proved, that

drinks and diets contribute in like manner to give peculiar tinges to the stools, which, even when passed in a natural state, are darkened by exposure to the air.\* Now that purgative medicines are so much resorted to, in almost all diseases, whether acute or chronical, these suggestions are only thrown out to caution the inexperienced against their indiscriminate continuance: for it has almost become an admitted principle in therapeutics, that we should continue to purge less or more while the stools remain unnatural; and yet it will be readily understood how erroneous that principle may be, since the very medicines exhibited may be the cause of the morbid evacuations. At the same time, it should not be concealed from the student, that the secretions, especially those of the liver, and villous coat of the bowels, are almost always vitiated by febrile attacks. Purgatives are therefore requisite not only to correct these vitiated secretions, but also to operate locally and generally as evacuants, particularly where visceral inflammation exists; and if there be

\* Similar observations might be made respecting the urine, the quality of which is affected by the medicines, and even by the food which we take.

one disease more than another where they are indispensably necessary and highly useful, it is unquestionably the puerperal fever, in which they justly rank next to venesection. Yet from what has been said the practitioner will perceive the propriety of not pushing the purgative plan too far when the symptoms have been overcome, from the mere unnatural appearance of the stools; but on the contrary, he will then select laxatives which, while they keep the bowels regular, will soon enable him to ascertain whether the morbid stools have been the product of the disease, or of the medicines previously given.

It will have been noticed, that opium was given in some cases of the puerperal fever, either to lessen the pain while the abdominal inflammation existed, or to allay irritation when that inflammation was subdued; but as the administration of opium, during the presence of inflammation, is condemned both in the schools and in systematic works, it may be necessary to say a few words on the subject. Having early imbibed the common prejudice against opium, accidental circumstances chiefly led me to

doubt the sweeping dogmas respecting its being prejudicial in visceral inflammations; and it has been by very gradual steps, that I have arrived at any thing like its true operation in such affections, seated in the abdominal cavity. Opium when given in health constipates the bowels, but this is so far from being the case in gastritis and enteritis, that it tends to assist the action of purgatives; and when exhibited in those complaints, in conjunction with proper depletion, it may fairly be accounted one of the best remedies. Yet as I have so often given it combined with calomel, it may be objected, that the result rather depended upon the combination than upon the opium alone. In some urgent cases, however, I have been compelled, from the necessity of attempting immediate relief, to trust to opium merely, when previous bleeding and purging had produced little or no alleviation of the symptoms; and in these the efficacy of opium was so remarkably great, as to embolden and justify me to give it in similar cases, when the ordinary measures in like manner had previously failed. Even here it may perhaps be contended, that as bleeding and purging had been in prior employment, the



agency of the opium might be reasonably questioned; but as a satisfactory answer to this natural scepticism, I can affirm that opium has been made the principal remedy, where, from a sort of necessity, the lancet and active purgatives could not be used. Since my appointment to the Fever Institution of London, it has sometimes happened that patients, while just convalescent from a protracted disease, and while extremely weak and emaciated, were attacked with all the symptoms of gastritis or enteritis; and as the peculiarity of their situation deterred me from blood-letting, previous facts induced me to trust to very early and full doses of opium, in conjunction with blisters, and the mildest laxatives. Where this treatment has been promptly applied it has in general given the most perfect relief. Sometimes sixty drops of the tincture of opium have alone answered the purpose, but sometimes twice that quantity was exhibited at once, and a smaller dose repeated soon afterwards, if the pain were not relieved by the first; and as the test of its utility has been its removing the pain, it was always re-administered, at proper intervals, until the pain entirely abated. When the stomach has

been very irritable, solid opium was prescribed in small pills, instead of the tincture, which nevertheless is generally retained except in extreme cases, and which operates more rapidly than the solid opium, though a combination of both often answers exceedingly well. In cases of this kind, however, the opium was certainly exhibited under a state highly favourable for its efficacy, as they had only existed a short period; and however great the general relaxation might be from the previous disease, there was a nervous irritation also existing, which made opium more peculiarly applicable. Patients are often brought into the Fever Institution in the last stage of fevers, proceeding from various causes, in which general depletion is entirely out of the question, from the excessive prostration of the general powers; and even in some of these cases, combined with gastritis or enteritis, large doses of opium, with blisters and laxatives, have succeeded when the ordinary means must have been wholly unavailable. Yet in protracted cases of fever combined with abdominal inflammation, ulceration of the villous coat of the bowels is by no means uncommon, not to mention other or-

ganić derangements, and therefore the general chances are greatly against opium, or indeed against any other mean then administered.

The two most remarkable effects of full doses of opium in gastritis and enteritis are the relief to the pain and the reduction of the pulse ; so that the patient often falls asleep shortly after their exhibition, and the pulse which had been previously small and quick, will become full and slow. Pain is a direct irritant to the heart and thence to the arteries, and in many cases thus prolongs inflammation. In external burns, where pain is the most urgent symptom, those applications are the best which relieve it soonest, and hence the efficacy of turpentine. In gastritis and enteritis, opium may be said to be applied almost directly to the part, and this may be one reason for its superior efficacy in them. In peritonitis strictly so called, where the pain and tenderness are diffused, it is by no means so useful, its benefit being most conspicuous where the pain and tenderness are *circumscribed*, as in enteritis, gastritis, or hysteritis. Yet in the puerperal fever, in which the peritoneum chiefly sustains the intensity of

the inflammation, opium may often be given with considerable advantage, where the local pain and constitutional irritation are excessive ; though in that stage of excitement it must not for a moment be forgotten, that bleeding and purging are the principal measures. When the stage of collapse approaches, as bleeding is highly prejudicial, opium may perhaps be accounted the primary measure, since the allaying of irritation is then the principal object. Whenever opium is administered in any species of abdominal inflammation, the dose should be large, for a small dose often stimulates, whereas a large one is a direct sedative ; and if I had been sooner aware of this fact, it would have enabled me to avoid some errors into which I formerly fell, in the exhibition and estimation of this peculiar drug. Between that state of the nervous system called irritation, and that state of the vascular system called inflammation, there is a most intimate relation ; so that in many instances when we promptly allay irritation we prevent an inflammation, which would have otherwise occurred ; and even when inflammation exists in combination with much pain, we often find, that by allaying the pain

we lessen or remove the inflammation. This acknowledged relation between nervous irritation and vascular inflammation has long been acted upon by surgeons, who use opium more judiciously than physicians; and indeed not only much fewer articles are used in surgery than in medicine, but they are far more precisely applied in the former, both of which things show the higher advancement of that department of medical science.

It is long since Heberden maintained the utility of opium in enteritis, and Clarke in the gastritis of warm climates; and an intimate friend has long resorted to its aid in these complaints, conjointly with the usual evacuations. But if any one were to generalize the idea, and give opium similarly in inflammation of the lungs and brain, he would soon bring discredit upon the practice; for exhibited alone it is prejudicial in these diseases, as digitalis, to illustrate a converse proposition, is useful in inflammation of the lungs and brain, but of no benefit in abdominal inflammations. These curious circumstances we cannot explain, but for practical purposes it is enough to be assured



of their truth. Probably opium has fallen into disrepute in gastritis and enteritis, because it has not generally been tried in sufficient quantities, and also because it is known to restrain the action of the bowels in health; but as I hinted in the essay on typhus, the bowels sometimes cannot be moved when they are inflamed until opium be given, a fact of which I have had repeated proofs in the course of my practice. Perhaps nothing has more retarded our advancement in the science of therapeutics than pre-supposing, that the operations of medicines are always similar in disease and in health. If opportunities should occur, a few years hence it is my design to draw the attention of the faculty to a series of facts which will show, that the operations of the same and different medicines are exceedingly varied by the states of the body under which they are administered; and upon this principle it is hoped, that our materia medica may be made to assume the form of a science, by deducing general principles from an ample collection of particulars, respecting the *modus operandi* of the most important agents in common use. These remarks have led me into a species of digression, but it will probably be

excused when it is recollected, that opium was one of the principal means which a late ingenious author recommended in the puerperal fever. As that author saved some of his patients, in spite of the highly stimulant plan which he simultaneously adopted, it is but fair to infer, that the opium had been useful; and since the powers of this medicine need further investigation, perhaps the bare allusion to the above circumstance may be useful to those, who shall hereafter investigate the puerperal fever, and other diseases combined with abdominal inflammation.

Bleeding and purging, however generally successful, will not cure every case of the puerperal fever, and when they cannot cure it in the beginning no other measures can, so far as my own information extends. But as the oil of turpentine has been brought into notice by Dr. Brenan, and as Dr. Joseph Clarke speaks highly of it in the last stage of that disease, it is only right, that its influence should be further investigated, when proper occasions occur; for however prone some physicians in Ireland may be to vaunt and to generalize its effects,

and however opposed its exhibition to our admitted theories of inflammation, still if experience has proved its utility under certain contingencies, we must not allow our pre-conceptions to retard its introduction. The present age is one of independent thinking amongst a large proportion of medical practitioners, and from this spirit has sprung, the desire of some to try new remedies; but at the same time it ought not to be forgotten, that many of our old ones require to be improved, by rendering their application more precise and particular.

Five years have now elapsed since the first edition of this work was published, and it has been to me highly satisfactory to find, that the pathological and therapeutical principles then exhibited, have met with the strongest confirmation from the observation and experience of many practical men; but nothing has given me greater pleasure, than the excellent work which subsequently proceeded from the pen of Mr. Hey, junior, and which has not been more particularly noticed in these pages, merely because I wish it to be attentively perused by all those concerned in the practice of midwifery.

Still however, before concluding the subject of this essay, I must beg leave distinctly to state, that the treatment recommended is only meant as strictly applicable in all its parts to *the* puerperal fever, in a limited sense; for if we were to inquire of different men what they mean by the term puerperal fever, we should probably have many definitions attached to it of various import; and it is much to be regretted, that both in books and in lectures much vagueness still exists for want of a precise meaning to the general term puerperal fever. Were any one, then to ask, what is precisely signified in the preceding pages by *the* puerperal fever, I should be disposed to answer—*it is an affection of child-bed, in which there is a general disturbance of the functions attended by an increase of the animal heat, an acceleration of the pulse, and evident or obscure symptoms of abdominal inflammation*; for I will confess, that I cannot frame any other definition which will justly comprehend those forms of child-bed disease which I have described, or most of those which I find specifically described by others, under the term puerperal fever. But it must be obvious, that the above definition does not embrace all the

modifications which fever assumes in the child-bed state, for though, when any shock occurs, the abdominal viscera are by far the most frequently affected, yet other parts may be simultaneously, or separately inflamed; and indeed a fever may occur in child-bed where the blood is so equally distributed as to make it wholly unconnected with inflammation, a general disturbance of the functions, an increase of heat, an acceleration of the pulse, and a change in the secretions being then its leading signs. The doctrine of predispositions is one of peculiar interest to investigate, inasmuch as it has hitherto been greatly neglected. If a number of women in child-bed, (and the remark is applicable to other states,) be exposed to any cause that excites the system into fever, that part will suffer most which had previously been in the most weak condition; and hence in one the brain or spinal cord, in another the lungs or liver may be inflamed, and hence too the frequent occurrence of inflammation in the peritoneum. We want, therefore, a more enlarged classification of the febrile diseases of child-bed than has yet been given, though for practical purposes all those which are combined with inflammation may be reduced within narrow bounds. Because whether



the inflammation be seated in the abdomen, chest, head, or any other part, and how much soever its characters may be varied by the tissue attacked, still it is inflammation which we have to encounter, and therefore the principles of treatment are similar; and as for that form of fever which is simple on account of the equal distribution of blood, we have but so to control the excitement by evacuations and regimen as to prevent it from ultimately producing mischief in any of the internal viscera which might be latently predisposed to disease. Yet independently of these, there is a peculiar complaint of child-bed which has not been distinguished by any author with whom I am acquainted, and as I suspect, that it has sometimes been confounded in practice with the ordinary puerperal affections, it may not be useless concisely to allude to it here.

This peculiar affection of child-bed is ushered in either by sensations of chilliness, or by paleness and oppression, without such sensations: but in both cases the vital powers are so prostrate, that no regular re-action takes place as in common fevers; so that the surface remains cool throughout, or there are merely short, partial,

and irregular flushes of heat. The shock in some instances is so great that the secretions are all suddenly suspended, and the patient sinks with rapidity; but in others the secretions are merely diminished, and the patient lingers a few days. From the first, more complaint is made of exhaustion than of anything else and there is such a striking depression in the countenance as to excite serious alarm. The face, lips, and whole surface are paler than natural, and the pulse is always weak, if not irregular. Sometimes there is a limited pain in the abdomen, sometimes not, and the same may be asserted of the head and chest: but the breathing is mostly impeded and oppressed, and one of the earliest and most marked symptoms is prostration of the appetite. Before death, gangrenous or livid spots are apt to appear on the extremities, and the brain is embarrassed in some instances, but in others the mind is clear to the last. In such cases, dissection does not reveal, so far as my examinations have extended, any of the usual remains of inflammation, that is to say there are no adhesions, no effusion of coagulable lymph, no formation of pus, nor internal gangrene from arterial fulness; and the

only morbid appearances have been, an unusual accumulation of blood in some part of the venous system, without any of those vermilion tints of the capillary arteries, which denote the previous existence of inflammation. From symptoms and dissections, then, this form of puerperal disease would appear to belong to what I have elsewhere denominated the congestive variety of fever; but as I have only met with an instance of it now and then in the child-bed state, my observations are hardly sufficient for the ascertainment of its true pathology. The first shock seems to be communicated to the nervous system, a reduction of the animal heat immediately follows, the blood consequently retires into the deeper seated veins, and thence is perhaps at first returned superabundantly upon the heart, which is so remarkably oppressed in its action as to render it highly probable, that the accumulation of blood about the right ventricle and large vessels finally retards the flow of venous blood from the other viscera. In the most violent modifications of this disease, if a vein be opened, little or no blood will issue from the puncture; and in the less violent, what blood does issue sometimes remains a fluid gore in the

vessel, or exhibits a gelatinous sort of opaque film on the loose dark crassamentum.\* This kind of puerperal disease is probably rare compared with the others, as I have seen only a few cases of it myself, and, with the exception of two friends, have not known any practitioner who has seen many; but all who have witnessed it, and my experience fully accords with theirs, have found it by far the most formidable of those acute diseases which attack after delivery, very few patients having recovered under any treatment. Perhaps it may be said, by those who are influenced rather by names than by things, that this must be the low child-bed fever described so well by the late Dr. John Clarke: but in this disease, there is no re-action, and therefore fever, in the ordinary acceptation of that word, is absent; whereas in the affection, which Dr. John Clarke has described, the re-action was early and perfectly developed. Besides the whole progress of the symptoms in the low child-bed fever, and the dissections after death clearly showed, that it was decidedly an inflammatory affection, the intenseness of which was the cause

\* It is no doubt to this modification, that Mr. Alcock has made an allusion in his valuable letter. From all that I have collected, it appears to occur oftener in hospital than in private practice.

of the apparent oppression ; but in the disease in question a state the very reverse of inflammation ushers in and accompanies the disease, for so far from pyrexia being present, there is a deficiency of the animal heat.

In this peculiar disease of child-bed, nothing can be done for the patient unless she be very early seen, and even then a cautious prognosis must be given, as the danger is imminent. An excellent practitioner once confessed to me, that he had never saved a patient in this complaint, and another acknowledged, that the mortality had been great, though he had used bleeding, purging, and all the means usually resorted to for relief in acute diseases. From these facts it would seem that the congestive forms of fever in child-bed were more perilous, than those which occur under ordinary states of the system ; and this may probably depend in some measure upon the exhaustion, which is sometimes super-added by the previous throes of parturition. The treatment of this disease must be regulated in the first instance by the constitutional powers of the patient, by the state of the animal heat, and by the apparent degree of venous pressure existing in some of the viscera. When a naturally



feeble, or an exhausted subject is attacked, much more care will be required, especially in the use of evacuations, than in one whose general health and muscular tone had been good and unimpaired prior to the seizure; and where there is so great a deficiency of the animal heat, that the whole surface feels cold to the touch, the practitioner must not be induced to use the lancet until some means be premised to restore the temperature, otherwise the patient may at once sink under the loss of blood. When the nervous system has sustained some great shock from an accident, the skin becomes universally cold, the blood retires from the surface into the interior, and the heart's action is extremely oppressed. Under such a state of things, it is an admitted principle in surgery not to bleed immediately, and indeed when it is done, death is often the direct consequence. Now in the most severe form of the disease under discussion, the constitution is almost in a state similar to that which supervenes a serious accident; for the nervous system has sustained an universal shock, the blood has retired from the surface, and the heart's action is oppressed. Under such a combination of symptoms from an ac-

cident, the best surgeons hold it as a maxim not to bleed, and indeed they carry this doctrine so far, as to declare, that the lancet should not be used till re-action, or in other words till febrile excitement, shall take place. But though this doctrine be excellent and admirable, in those accidents where the vital powers are not so much overwhelmed as to prevent them from rallying into re-action, yet it would lead and has led to great practical errors, when received as a rule from which there ought to be no exception; for it sometimes happens in great shocks from accidents, that the patient dies before any signs of re-action have appeared, and in like manner the same thing happens in those congestive diseases, such as that in question, which proceed from great and general shocks. As this diminished energy, then, of the nervous system, this preternatural reduction of animal heat, and this engorged state of the internal veins cannot continue to exist beyond a certain time without the greatest danger, or without destruction to the patient, it is the business of the practitioner to create re-action, which as it cannot be naturally must be artificially brought about, because it is the cure of this peculiar state.

If possible, the patient should be at once immersed in a bath, at least 100° of Fahrenheit's scale, and strongly impregnated with salt. She should remain in it till the surface become warm, and when removed from it, the skin having been well dried and rubbed with warm flannels, she should be laid between warm blankets, and drink warm fluids, while bottles of warm water ought to be put to the feet, and a large bladder of warm water to the region of the stomach. But where the ordinary bath cannot be prepared with sufficient expedition, a vapour one may be substituted, and where that cannot be had, the other auxiliary means just mentioned must alone be employed, for the purpose of raising the temperature of the surface. When the shock communicated to the nervous system is extremely great, it is better, as before observed, to defer blood-letting until the coldness of the skin has been in some measure removed, and even then, in venturing to open a vein, it will sometimes be expedient to administer internally a diffusible stimulant, such as æther, in order to excite the vis insita at the same time. In extreme cases, the blood only trickles from the orifice at first, but where the operation does

good, the heart gradually regains its force, and the pulse becomes free, while the blood at last gushes out in a full stream; and in those instances where the heart, instead of regaining, loses power, and grows weaker in its action, the arm should be immediately bound up, because continuing to abstract blood in that case might stop the circulation altogether. In short blood-letting will be either beneficial or the contrary according as it raises or sinks the heart's action; and this is the criterion, by which the practitioner must be guided in every modification of congestive disease. In this, and in all similar complaints, venesection must never be carried to syncope, for it must be recollected, that the object of bleeding here is to unload the venous system and to bring the heart fairly into play; and these ends being once accomplished, it would be bad practice to abstract more blood, which could only so weaken the heart as perhaps to make it unable to maintain the balance of the venous and arterial systems. On the contrary, in inflammatory diseases, where the heart's action is preternaturally increased, we bleed for the purpose of reducing that action, and therefore we

may often proceed advantageously in the operation till faintness is about to supervene: but even in such examples, especially where much blood has been drawn, we should always make a point of watching the very first indications of approaching faintness, that the patient may be laid flat down at once, and all motion restrained; for I do believe, that for want of such precautions blood-letting, even in inflammatory diseases, has now and then led to a fatal result, particularly in young children, who much more readily than adults may be lost in syncope. In fact, young children should scarcely ever be bled to syncope, since in them it may sometimes lead to mortal convulsions.

But, to return to the consideration of this congestive disease of child-bed, it ought to be remarked, that venesection must be still more guardedly employed, in subjects who are constitutionally weak than in those who have been previously strong; and in both all idea of the operation must be abandoned unless in the very onset of the attack, where the congestion is apparently so great as to be threatening the destruction of some vital organ, and bearing down by its pressure the ge-



neral powers of the body. In those cases where the hot-bath and blood-letting answer the best purpose, the re-action follows without the necessity of any other measure; and when that re-action is once established, the disease having assumed a new character, must be treated as simple or inflammatory fever, according to its symptoms. But in many instances of this congestive complaint of child-bed, these means will only have a partial effect, or fail entirely; and in such the measures upon which I have most reliance, in conjunction with blisters, are calomel, opium, and camphor given in repeated doses, as directed in the essay on typhus, till the skin shall become warm and moist. In some examples of congestive disease, not occurring in the child-bed state, I have seen beneficial effects from emetics; but not having yet ascertained the precise states under which they are indicated or contra-indicated, I can only mention them as means deserving of investigation. As the bowels are frequently loaded in puerperal women, large cathartic injections should always be exhibited on the first attack, and laxatives or purgatives afterwards exhibited so as more completely to clear the intestines.

But it is only in the onset, that purgatives should be given, and even then they should be spared so long as the surface remains cold; while in the advanced stage, they should be wholly omitted, as their operation might irretrievably sink the strength. Upon the whole, the pathology and treatment of all affections connected with venous congestion, have received the least attention, and are therefore the most open to improvement; and my chief object in noticing this peculiar disease of child-bed, was to confess my imperfect knowledge of its nature and cure, that others might hereafter be led to undertake their more complete illustration. And if I have spoken confidently of those child-bed diseases which, being attended with universal excitement and topical disorder, have been comprised under the general term puerperal fever, that confidence rests on an ample body of evidence; yet the treatment even of these diseases is so far from being perfectly accomplished, that all which has been written on the subject, ought only to be made the ground for advancing towards higher attainments, and more certain results.

**THE** first Appendix is subjoined, because it contains much information, respecting the Puerperal Epidemic which appeared in the North of England, and the second because it contains the practical results of two individuals who have narrowly observed the Febrile Affections of Child-bed.

## APPENDIX, No. I.

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*Letter from J. T. Gregson, Esq. Surgeon in Sunderland, addressed to the Author, containing two Cases of the Puerperal Fever, and some Observations on that Disease.*

SIR,

Sunderland, Nov. 1st, 1813.

**F**ROM the beginning of January to the beginning of October in the present year, forty cases of puerperal fever have occurred in my practice; about twenty of those cases have been attended with me, or for me, by my late assistant Mr. Gregory,\* and, I believe, that you have nearly attended an equal number with me. This gives me much satisfaction, because, in matters of this nature, collective testimony is always the most desirable and conclusive.

The disease was marked by such strong cha-

\* Now Surgeon in Monkwearmouth.

racters that it could not be easily mistaken, and I have been particularly mindful to exclude, from the above number, every case in the least degree ambiguous.

Of the forty patients afflicted with puerperal fever, four only died, and the remaining thirty-six are now living testimonies of the efficacy of the treatment adopted. The consideration of this latter circumstance is extremely consolatory, and, perhaps, it authorises me to say, that the success of the practice is unexampled in the records of medicine, and, likewise, confidently to hope, that the publication of your treatise on puerperal fever may be the means of saving many valuable lives hereafter.

While only three solitary examples of this distemper occurred to some practitioners, and while it was unobserved by several others who lived in the same town, it may appear rather singular at first sight, that so many should have occurred to myself and my assistant. The cause of this I cannot pretend fully to explain, but I should be wanting in common liberality if I were to make any hesitation in asserting, that the disease which appeared in my practice was highly contagious, and communicable from one puer-



peral woman to another. For some time I was not aware of this important fact. The cases which fell under my care, with a few exceptions, took place among poor women, who lived in confined situations, and in small apartments, in which fires were kept for the convenience of large families that, for the most part, had no other room to reside in. The heat and noise of these apartments, the want of ventilation, the constant succession of visitors to the sick persons, the pernicious custom of taking strong drinks and flesh diet, in utter disregard of professional admonitions, seemed to me, for some time, sufficient causes for the production of this fever; but its frequent occurrence seriously awakened my attention, and led me to discover that the causes above enumerated generally acted only as predisposing ones, and that the disease was excited and kept up by an infectious matter. It is customary among the lower and middle ranks of people to make frequent personal visits to puerperal women resident in the same neighbourhood, and I have ample evidence for affirming, that the infection of the disease was often carried about in that manner; and, however painful to my feelings, I must in candour declare, that it is very probable the

contagion was conveyed, in some instances, by myself, though I took every possible care to prevent such a thing from happening, the moment I ascertained that the distemper was infectious.

The puerperal fever has at length disappeared from my practice, and while I have deeply to lament the loss of four patients by it, yet I feel greatly consoled in reflecting, that its occurrence has led to practical results, which will most materially lessen its fatality in future.

As I understand that you have, in several parts of your work, very particularly illustrated the combined powers of copious blood-letting and purging, I shall select two cases, to shew the efficacy of blood-letting, purging, and vomiting, used in quick succession, and conclude with some desultory observations.

Martha Watson, an unmarried woman, aged nineteen years, was delivered of her first child on the 31st of last July. Nothing unusual occurred either during or after the labour. This woman was healthy and robust, and of a passive disposition, and did not seem to feel the pecu-

liar delicacy of her situation, with that regret and anxiety which is so often observed under similar circumstances.

No symptom of disease manifested itself till the 2d of August, the third day after her delivery, when she was attacked with rigors, which were soon succeeded by severe pain in the abdomen, considerable febrile excitement, nausea, and vomiting. These symptoms continued to advance with increasing violence, but, notwithstanding, I did not receive the least intimation of the indisposition of this poor woman until the disease had existed fully thirty hours.

At nine o'clock of the evening of the 4th, I found her in great agony, complaining of a constant pain and burning heat in the belly, the surface of which was extremely sore, and there was, likewise, much abdominal tension. The skin was uncommonly hot and dry, the tongue foul and parched, the lochial discharge suppressed, the secretion of the milk much diminished, the breathing quick and laborious, the pulse 136 in a minute, and besides, there was incessant thirst, and constant nausea or vomiting.

Although, as previously stated, thirty hours had elapsed from the first attack, the urgency of the inflammatory symptoms induced me, even at this advanced period of the first stage, to use the lancet; and, accordingly, I took away twenty ounces of blood from a large orifice at the arm, which brought on some degree of faintness; immediately exhibited half a drachm of calomel in mucilage of gum arabic, ordered three drachms of sulphate of magnesia to be taken every hour, in a little gruel, until free and repeated fecal evacuations were obtained, and recommended the diet to be weak tea and thin gruel.

At five o'clock on the following morning, I made another visit, and found, that the patient had been purged copiously upwards of twelve times by the medicines prescribed. The nausea and sickness had entirely ceased, and the intense pain subsided from the abdomen, which, however, was still very tender upon pressure. The thirst and other febrile symptoms were nearly the same as before, excepting that the pulse was softer. One grain of tartarised antimony was ordered to be given every hour until considerable nausea or vomiting supervened. No alteration was made in the diet.

Calling again about noon of the same day, I was informed that four grains of the antimony had been taken as directed, that full and frequent vomiting had been induced, and several liquid stools discharged. There was considerably less tenderness over the abdomen, and the pulse reduced to 126 in a minute. The sickness having quite abated, half an ounce of castor oil was prescribed, and the same quantity ordered to be repeated two hours afterwards.

By the evening, five more fecal evacuations had taken place, and there was then only a slight degree of tenderness remaining over the abdomen; the skin was warm and perspiring freely, and the pulse only 116 in a minute. The lochia had returned in considerable quantity, and was extremely offensive.

Forty drops of the tincture of opium were exhibited in the form of a draught, which gave some hours of refreshing sleep; and on the ensuing morning, the 6th of August, the patient might be pronounced convalescent; the pulse being very soft, and less than 100 in the minute. Gentle laxative medicines, however, were frequently repeated till the 10th, after which she very speedily recovered her strength.



Mrs. D—— was delivered of her first child, after a severe labour, on the 15th of August. Every thing went on well till the 17th, in the morning of which day she had rigors ; succeeded by head-ache, nausea, sickness, increased heat, thirst, white clammy tongue, a small vibrating pulse, upwards of 120 in a minute, suppressed milk and lochia, great internal heat and pain in the cavity of the belly, and considerable tenderness of the abdominal integuments. The breathing was laborious, the countenance anxious, and the natural functions much oppressed.

Without delay, I took from the arm twenty ounces of blood, prescribed half a drachm of calomel, and small doses of sulphate of magnesia, and a spare diet, as in the former case.

Before night the patient was purged about ten times very copiously, and she experienced great relief. One grain of tartarised antimony was ordered every hour until it excited nausea or vomiting.

On the following morning, I found that the antimony had caused vomiting when the third dose had been taken, and that three motions by the bowels had occurred during the night. A

complete remission was effected, the pain and tenderness quite removed from the abdomen, and the pulse soft and only 90 in a minute.

From the 19th till the 23d of August, this patient continued better, hardly any medicine, except gentle laxatives, being required. In the morning of the last mentioned day, however, she again became feverish, and the pulse, in a few hours, rose to 130 in a minute; and she was afflicted with constant and excessive pain in the abdomen. A scruple of calomel was ordered to be taken directly, and the belly to be frequently fomented with flannels wrung out of hot water.

The calomel did not operate, and at six o'clock in the evening the pain in the bowels was extremely urgent, the abdomen tense and very tender, the skin intensely hot, and the pulse small and 160 in a minute. Conceiving that a repetition of bleeding was now contraindicated, I ordered half a drachm of calomel to be exhibited immediately, and half an ounce of castor oil every hour afterwards until it operated freely on the bowels.

At a very early hour in the morning of the

24th I visited this patient, and was much gratified to find that the calomel, and four doses of the castor oil had caused eleven dark coloured stools, and produced a remission of all the urgent symptoms, and a return of the lochia. The pulse was 140 in a minute, and some degree of abdominal tenderness still remained. A grain of tartarised antimony was given every hour, and, after having been repeated three times, it occasioned free vomiting.

At night the pulse was reduced to 118 in a minute, the skin was warm, and in a state of free perspiration, and the abdominal tenderness removed. The sickness had quite abated, and five or six more fecal evacuations had taken place in the course of the day. With a view to procure rest, an enema, which contained 120 drops of the tincture of opium, was administered.

The patient had a good night, and next morning was in every respect convalescent, but notwithstanding, her bowels were kept in a lax state for several succeeding days by small doses of castor oil; and an opiate was occasionally prescribed for the purpose of allaying irritation.

The last case manifests the necessity of constant vigilance on the part of the practitioner, even when a remission has been effected, and shews that however desperate the circumstances may be they are not always absolutely insurmountable. If diffusive stimuli had been resorted to, under an idea of sustaining the apparently sinking powers of the system, I have not the least doubt but that the patient would have been lost. Evacuations saved her, because they removed the inflammation which was verging towards a fatal crisis, by oppressing and impeding the vital functions.

From long experience, Denman advises antimonial emetics, which have, nevertheless, been prohibited in puerperal fever by some later systematic writers, hardly any of whom, however, appear to reason from facts; and the greater part raise objections to the use of emetics, merely because they cannot perceive in what manner such remedies can be of service. Without speculating on the subject, it is enough for me, that I have seen them really beneficial after bleeding and purging; nor shall I attempt to explain their mode of operation, although I must confess that they have always seemed to

me to produce their good effects by reducing the morbid force of the arterial system.

My attention was particularly turned to the usefulness of emetics from an accidental occurrence in a case, in which purgative medicines had been given to a considerable extent, without completely relieving the pain and tenderness of the abdomen; which, however, were soon removed by free vomiting, occasioned by a large dose of calomel combined with jalap. And from that period I have repeatedly used antimonials, with the intention of exciting nausea or vomiting, when bleeding and purging, or when purging alone, had been premised.

The forty cases of puerperal fever, which took place in my practice this year, were treated by the antiphlogistic method; a few cases by purging simply, and all the remainder by bleeding and purging, or by bleeding, purging, and vomiting, used in the manner previously specified.

From remarks, diligently made at different times and occasions, I have long believed, that the simple peritonitis of child-bed women is nothing more or less than a variety of the low



infectious puerperal fever, and that they ought to be classed and treated as the same disease. My whole experience, in an extensive practice of midwifery in the middling and inferior classes of society, and more particularly that of the last ten months, has left me without a doubt upon this point.

The generality of the cases which fell under my care, in the present year, were attended by as great apparent lassitude and prostration of strength as ever I beheld in the common typhus gravior ; but, conceiving that an acute local inflammation was going forward in a vital part, I was induced to place my sole reliance upon depletion, which, when very freely employed in the beginning of the disease, never failed to answer my utmost expectations.

Bleeding may always be employed in the first stage of puerperal fever with much benefit, and I believe that it has been brought into disrepute from having been used indiscriminately during the course of the disease.

From the rapid progress which this fever generally makes, the necessity of procuring as speedy a resolution as possible will be admitted

at once ; and, I conceive, that large doses of calomel are admirably calculated, in part, to fulfil that intention ; they have been given in a great number of instances, and none but the most salutary effects have ever resulted from their exhibition, and I can, therefore, confidently recommend them.

After what you have written, it would be needless for me to enter more into details than I have already done ; particularly as my chief object in addressing you at all, is rather to confirm the accuracy of your statements, than to offer any additional matter upon the subject that you have discussed.

I took short, but correct, notes of most of the cases of puerperal fever as they occurred : if these should be of the least use to you hereafter, they are perfectly at your command for publication ; and I consider you fully entitled to all the facilities that I can give to your undertaking, on account of the unwearied attention you paid to many of my patients, who were afflicted with puerperal fever.

I am, Sir,

Your obedient servant,

J. T. GREGSON.

*To John Armstrong, M.D.*

*Letter on the same Subject, addressed to the Author, by R. Gregory, Esq. Surgeon in Monk-Wearmouth.*

SIR,

Monkwearmouth, Nov. 3, 1813.

While acting as an assistant to Mr. Gregson, I witnessed, at different times in the current year, at least twenty cases of puerperal fever, which were forcibly characterised by great abdominal pain and tenderness, unusual celerity of pulse, high pyrexia, suppressed or diminished lochia and milk; and also by excessive debility and restlessness, such as attend the most severe kinds of typhus.

From all that I observed I was firmly convinced, that the fever was highly inflammatory in the beginning, and required the most rigid antiphlogistic practice. Every case that I saw more completely satisfied me of the superiority of the treatment made use of by you and Mr. Gregson.

With two exceptions only, the cases that I witnessed were treated by free venesection, large doses of calomel, and other purgatives; or by

venesection and cathartics, with antimonial emetics; and though plentiful bleeding and purging certainly fulfilled every intention, yet antimonials seemed to me auxiliary remedies of considerable force in promoting a speedy resolution of the disease. Where antimony excited vomiting, soon after free blood-letting and purging, I remarked that the complaint terminated sooner than in those cases where it only induced nausea.

The pain was mitigated, in every instance, by blood-letting, but permanent relief was not obtained in any case until the bowels were freely moved; and calomel, exhibited in doses of a scruple or half a drachm, answered that purpose extremely well, with the assistance of sulphate of magnesia or castor oil. Some practitioners will probably think such a quantity of calomel given at one time rather hazardous, particularly to a woman labouring under puerperal fever; but a little experience will soon remove their groundless apprehensions, and convince them of its inestimable value in this disease.

In no case whatever have I seen the smallest

danger result from the use of such an unusual dose as above stated ; on the contrary, it has always been most eminently beneficial, and the only inconvenience that can arise from its exhibition is an occasional ptyalism ; yet this, in my opinion, is a very desirable occurrence, as the symptoms of the disease very rapidly receded in those cases where it took place, from the repetitions of the large dose of calomel.

In the unavoidable absence of Mr. Gregson, some cases were left to my own management ; and I made a point of bleeding till the patient was likely to faint ; a circumstance which, I conceive, is of some consequence in checking the inflammatory action. It likewise appeared to me, that half a drachm of calomel answered better than a scruple, because it acted much sooner and more effectually.

These are the principal facts that occur to me at present, which I hope you will find sufficient, as evidence of the success of your plan of treatment. From the notes in my possession, it would have been easy for me to have given you a minute detail of several cases, but having



been informed by Mr. Gregson that he has addressed you at some length upon the subject, I have thought it better to be as brief as possible.

I remain, sir,

You very obedient servant,

R. GREGORY.

*To John Armstrong, M.D.*

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*Letter addressed to the Author, by J. Wolfe,  
Esq. Surgeon in Chester-le-street, near Dur-  
ham.*

DEAR SIR,

Chester-le-street, Aug. 4, 1813.

In reply to your inquiries, I beg to inform you, that since last January several cases of puerperal fever have fallen under my observation, but none of them were so severe as the case of the lady whom you lately attended with me in the neighbourhood of Chester-le-street. Since you appear to wish me to give you some account of my general method of treatment, rather than details of particular circumstances,

I shall endeavour to comply with your request in as few words as may be.

Whenever I find that any patient after her labour has a very quick pulse, hot skin, thirst, oppression, abdominal pain and tenderness, I immediately open her bowels freely with calomel, castor oil, or infusion of senna, and occasionally assist the operations of these medicines by a cathartic enema, to procure speedy evacuations. If, after the contents of the lower part of the bowels have been dislodged, the stools are of a dark-brown colour, resembling coffee-grounds, very copious, of the consistence of thick gruel, and of a fetid smell, I am led to suspect the existence of puerperal fever, and continue the laxative medicines in order to obtain several free stools daily, till the peritoneal pain and tenderness are considerably abated, and the pulse diminished in frequency; occasionally, however, I prescribe an anodyne draught at bed-time, or an anodyne injection, to suspend the action of the intestines and procure some ease and rest.

During the last sixteen years, I have always trusted to very copious purging for the cure of puerperal fever, and to effect my purpose have

often been obliged to keep the bowels very free for several days successively, and in some severe cases, even for two or three weeks before the symptoms of the abdominal inflammation have completely subsided. In short, I am never afraid of my patients having too many stools, as long as abdominal pain and tenderness, and fever continue. When I examine the alvine discharge, I do not expect to find ordinary stools, but evacuations of a peculiar nature, and am often obliged to explain this matter to nurses, who are in general greatly alarmed at so much purging.

From the commencement of the complaint to its termination, I have almost always observed, that the stools have not had a natural appearance, and frequently that hard scybala have only been discharged when the stools were becoming natural towards the end of the disease. As it has always been my custom to inspect the evacuations, I know from experience that I can detect the presence of puerperal fever, by their appearance and consistence, taken in conjunction with other symptoms described in the former part of this letter.

Having been accustomed to treat the puer-

peral fever solely by active purging, I can speak decisively in favour of that mode of practice; nor do I recollect that I ever made use of the lancet, except in one case attended with symptoms of acute hepatitis, in which plentiful bleeding from the arm produced a remarkably good effect.

It has sometimes happened in my practice that one brisk purge only has been necessary in the beginning of the complaint; but in those cases the free evacuation of the unnatural stools went on for several days, and, like a kind of spontaneous diarrhoea, carried off the disease.

Though I said above that I treated the complaint solely by purging, yet I do not omit to give the saline mixture in the state of effervescence, when sickness or vomiting take place, and afterwards continue it as a febrifuge.

The late Dr. Clarke of Newcastle relied entirely upon the purgative plan of treatment, and I freely acknowledge that I first made use of it at his recommendation, having had the good fortune to attend a patient labouring under puerperal fever with him, at the commencement of my obstetric practice.

My practice in puerperal fever has been generally successful, but, as I always see my patients very often after their delivery, I have had it in my power to combat the disease in its first attack ; which circumstance gives the practitioner great advantage, and to which I am partly inclined to ascribe the fortunate result of the cases that have come under my care.

I am, dear sir,

Yours, very truly,

JOHN WOLFE.

*To John Armstrong, M.D.*

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*Observations on the state of the Atmosphere  
between January and October, 1813, the  
term in which the Puerperal Fever was most  
Prevalent.*

THE following brief account of the weather is extracted from the diary of an acquaintance ; and the author regrets that it contains no barometrical and thermometrical observations. One of the principal reasons for inserting it is, that the puerperal fever prevailed in different places during the same period.



In the beginning of January, the weather was very mild and clear, with light airs from the west and south-west; about the middle, there was a strong frost, with some snow; and the day afterwards, heavy rain, the wind blowing from the south-east; from the 16th to the end, it was mostly clear and frosty; very little snow fell, and the wind varied from the south, west, and north. The complaints most prevalent in Sunderland in this month were low fevers, rheumatism, and dyspepsia.

February was ushered in by fresh breezes from the west and south-west, and continued, for the most part, fair till the 10th, when hard squalls came on from the west-south-west, with showers of rain, sleet, and snow; from the 11th onward, there were strong gales from the south, and west, and frequent heavy rains. Low fevers were rather more prevalent this month, and the number of rheumatic and dyspeptic cases were nearly the same as in the last.

March was remarkably mild and clear for the season; very little rain fell, and the wind was light and variable; it shifted chiefly from the west to the west-north-west throughout the month. Low fevers almost entirely disappeared,

through rheumatic and dyspeptic complaints were nearly as numerous as before.

From the 1st of April to the 5th the wind blew from the west-south-west or from the east-north-east, much snow and sleet fell, and it was intensely cold; from the 10th to the 21st the wind was almost constantly in the west; the weather was fine and dry, and the early blossoms were advanced more than is usual at the season. From about the 22d to the end of the month, high gales from the east-north-east and north-east, with rain, sleet, and snow, which did much injury to the fruit-trees. In this month a few cases of low fever again occurred, hardly any of rheumatism, or dyspepsia, but some of catarrh.

The commencement of May was rainy and very cold, and the wind continued in the north-east or south-east till about the middle, when it changed to the south-west, and some rain and thunder followed; from the 16th it blew from the south-east; and the weather was very wet and hazy till the 25th, on which day it became warm and dry, and continued so till the end of the month.

The long continuance of the cold east winds destroyed almost all the early blossoms; and the sides of those hedges and trees which were exposed to its successive blasts appeared as if they had been scorched, exhibiting such effects as are attributed to the Sirocc in Sicily. In this month, there were some low fevers, and rheumatic complaints, and several dyspeptic and pulmonic cases.

The weather was alternately warm and cold till the 6th of June, during which some rain fell, and the wind was principally from the north-east; from this time there were light south-east breezes, with very mild weather till the 11th; after which it became for a short time rather thick and hazy, the wind blowing from the south-west. From about the 16th to the end of the month it continued cold and hazy for the season, and the wind veered from the north-east to the south-east. In the beginning of July, there were strong gales from the east-south-east and north-north-west, with rain, followed by some tolerably calm clear days, with fresh gales from the north and south-east. From the 16th to the 20th, the wind was principally in the west, and there was a good deal of rain, though the weather upon the whole

was very sultry. One or two cold days afterwards occurred with a north-east wind ; but the weather again became sultry, and there was much thunder, lightning, and rain, the wind blowing either from the south-west or south-east. During these two months, low febrile, rheumatic, and dyspeptic complaints were still most prevalent, and there were some cases of catarrh and dysentery.

From the 1st to the 9th of August, the wind was from the south-west and north-west, the weather fine, and some light showers of rain ; from the 9th to the 12th, the wind shifted from the west-north-west to the north and south-west, and the atmosphere was clear and sultry ; from the 13th to the 20th, fresh gales from the north-west and west, and occasional showers of rain ; from the 21st to the 26th, fine, calm, clear weather, and the wind in the north-east and south-east ; from that time till the end of the month, it mostly blew from the north-east ; there was very little rain, the air cloudy and rather cold for the season. There were several cases of typhus this month, some of scarlet fever, dysentery, rheumatism, enteritis, and cholera.

From the 1st of September to the 7th, the

atmosphere was sometimes hazy, and sometimes clear; light airs from the south-west, with slight showers; from the 7th to the 12th, the wind shifted from the west-south-west, north-west, and north-east; some rain fell, and the weather was alternately fair and cloudy; from the 13th to the 16th, strong gales from the west-south-west, cloudy and rather rainy; from that time to the 20th, the wind was variable, with fine, clear weather; from the 20th to the 29th, it was in the north-east and north, and the air cloudy and cold; on the 30th, fresh breezes from the east-south-east, and the day was warm and clear. The diseases which prevailed most this month were typhus, scarlet fever, rheumatism, dyspepsia, and pneumonia.

As no evident connexion could be traced between the variations of the weather, and the *increase* and *decrease* of the puerperal fever, it has been thought unnecessary to state the number of cases which occurred in each month.



## APPENDIX, No. II.

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*Letter from Dr. Joseph Clarke to the Author,  
containing Remarks on some Parts of the First  
Edition of this Work.*

SIR,

Dublin, Oct. 19, 1818.

In the 9th page of your preface to “Facts and Observations on Puerperal Fever,” you have invited practitioners to liberal criticism. I embrace therefore the opportunity of a second edition, about to appear, to submit a few facts on this subject to your notice.

Very serious difficulties appear to me to arise from the first paragraph of your preface, stating that “in the following work both the ordinary peritoneal inflammation, and the low malignant fever are comprehended, under the common term of puerperal fever.” That the same method of cure may apply to each, I am bound to admit on your authority. But after more than thirty-five years’ close connexion with the

Lying-in-Hospital of Dublin one of the largest in Europe, and during the same period having been busily employed in private practice through this city, the population of which considerably exceeds 200,000, I am enabled to declare that common peritoneal inflammation is familiar and well known to me, especially in hospital practice, whereas the low malignant fever as described by you and my late friend Dr. John Clarke is nearly unknown to me, and has rarely occurred among that class of patients by whom I am employed. Classing these two diseases together has, in my mind, led you into an assertion very alarming both to practitioners in midwifery and to their patients, viz. that there is reason to apprehend the former may be the medium of conveying infection to the latter. That such is not the fact respecting the common peritoneal inflammation, I do most positively affirm. During the prevalence of this disease in the Dublin hospital, in the years 1787 and 1788 (for which, see *Edinburgh Medical Commentaries*, vol. xv.) no such disease prevailed in the town. Not one case occurred to me, who had the principal care of the hospital, nor to any person connected with it.

The same may be also affirmed of the year

1813, when a great deal of peritoneal inflammation was observed in the hospital, but none whatever in the upper classes of society in town. In truth if I might presume to form a judgment, from the most respectable accounts of epidemical diseases prevailing among lying-in-women, both in London and various other parts of England, I should be obliged to declare that Dublin for the last thirty-five years has been peculiarly favoured, no malignant low fever having at any time prevailed among the upper ranks. In peritoneal inflammation we have observed almost no delirium, no low mutterings, no petechiæ. These, I apprehend, are symptoms applicable peculiarly to the low malignant fever.

In the treatment of peritoneal inflammation, having seen many severe threatenings of this disease yield to brisk purging alone, I should incline to delay blood-letting for a few hours, until the effects of the first measure were clearly ascertained, and I see no objection whatever to a large dose of calomel to make a commencement of brisk purgation. When the stomach proves very irritable, and the bowels difficult to be moved, experience has taught me that a large bleeding is a wise measure. When the

passage through the bowels have been several times *very freely* effected, infusions of senna with neutral salts and tincture of senna, castor oil, and tartrate of kali and soda in a saturated saline mixture, may be very beneficially used to keep up the action of the bowels, day after day, till the soreness of the abdomen and fever abate. Warm fomentations to the abdomen seldom fail to be agreeable to the patient, and to abate pain. When venesection fails to relieve abdominal distress, my friend, Doctor Labatt, the present Master of our Lying-in Hospital, has found great relief from the application of two or three dozen leeches to the abdomen, and persevering in stupes, after they have fallen off. From Dr. Labatt I have obtained the following important remarks on some parts of your practice.

“ Soon after the publication of Dr. Armstrong’s work on Puerperal Fever, I was led to exhibit calomel in large doses (℥1 to ʒss.) in peritonitis. My first trials were attended with success. Subsequent experience however convinced me that it was safer and better to administer it in smaller doses, combined with some other purgative. The combination I have found to succeed best is ten or twelve grains of calo-

mel, with an equal quantity of jalap, and a few grains of ginger: this when followed by a dose of castor oil, or a few spoonfulls of the infusion of senna made active by tincture of jalap and Epsom salts, will seldom fail to produce a speedy and complete evacuation of the bowels. Calomel in large doses sometimes produces alarming weakness, a tympanitic state of the abdomen, with vomitings and great irritability of stomach, which prevent for some time the exhibition of any purgative by the mouth."

During the great prevalence of peritonitis in our hospital in 1813, I was very frequently consulted. The stomach showed most unusual irritability, and the bowels greater reluctance to yield to purgatives than I had ever before witnessed. In addition to the usual routine of practice, numerous trials were made of the rectified oil of turpentine, in doses of from six to eight drachms, sometimes in plain water, sometimes combined with an equal quantity of castor oil. The first few doses were generally agreeable to the patient and seemed to alleviate pain. By a few repetitions it became extremely nauseous, and several patients declared "they would rather die than repeat the dose." In more than twenty trials of this kind, not a single



patient recovered. In a few cases as an external rubefacient, oil of turpentine, sprinkled on hot flannel and applied to the abdomen, has afforded remarkable alleviation of pain. When the abdomen becomes tympanitic, towards the decline of peritonitis, two or three drachms of oil of turpentine combined with a dose of castor oil will frequently diminish the abdominal tumefaction in a most satisfactory manner. It does not however always ensure recovery.

I must trust to your love of truth, and desire to be useful, for excusing the freedom with which I have ventured briefly to submit these facts and observations, and beg to assure you most respectfully of my best regards.

JOSEPH CLARKE, M. D.

44, Rutland Square.



Year ending the 31st of December,											
1776	833	31	802	418	407	825	22 (1 had 3)	132	39	7	7
1777	872	37	835	452	395	847	12	145	35	7	7
1778	961	34	927	476	460	936	9	127	39	10	10
1779	1064	53	1011	550	476	1026	15	146	59	8	8
1780	967	48	919	499	441	940	21	115	41	5	5
1781	1079	52	1027	598	447	1045	18	121	38	6	6
1782	1021	31	990	549	458	1007	17	127	57	6	6
1783	1230	63	1167	632	553	1185	17 (1 had 3)	91	72	15	15
1784	1317	56	1261	643	641	1284	23	76	68	11	11
1785	1349	57	1292	711	610	1321	28 (1 had 3)	87	75	8	8
1786	1396	45	1351	716	656	1372	21	51	101	8	8
1787	1418	71	1347	705	670	1375	28	59	95	10	10
1788	1533	64	1469	725	771	1496	25 (1 had 4)	55	72	23	23
1789	1497	62	1435	745	707	1452	17	38	84	25	25
1790	1610	64	1546	813	766	1579	32 (1 had 3)	61	88	12	12
1791	1671	69	1602	842	782	1624	22	75	87	25	25
1792	1701	70	1631	858	806	1664	31 (1 had 3)	65	83	10	10
1793	1811	64	1747	941	815	1786	38 (1 had 3)	68	71	19	19
1794	1595	52	1543	835	744	1579	34 (3 had 3)	70	60	20	20
1795	1585	82	1503	827	719	1546	42 (1 had 3)	72	57	7	7
1796	1684	63	1621	857	788	1645	23 (1 had 3)	67	83	10	10
1797	1768	56	1712	908	840	1748	35 (1 had 3)	41	97	13	13
1798	1674	70	1604	845	789	1634	29 (1 had 3)	47	103	8	8
1799	1620	83	1537	829	748	1577	38 (1 had 3)	53	84	10	10
1800	1907	70	1837	965	899	1864	27	51	116	18	18

\* This Abstract is printed, after Dr. Joseph Clarke's Letter, to show the extent of practice in the Dublin Hospital.

Year ending the 31st of December,	Number of Patients admitted.	Went out not delivered.	Delivered in the Hospital.	Boys born.	Girls born.	Total Number of Children.	Women having Twins and more.	Children dead.	Children still born.	Women dead.
1801	1804	79	1725	864	894	1758	31 (1 had 3)	37	111	30
1802	2018	33	1985	1055	957	2012	25 (1 had 3)	27	124	26
1803	2065	37	2028	1065	1000	2065	35 (2 had 3)	74	116	44
1804	1980	65	1915	1013	936	1949	34	54	119	16
1805	2277	57	2220	1239	1031	2270	50	51	138	12
1806	2519	113	2406	1247	1204	2451	45	43	151	23
1807	2603	92	2511	1306	1249	2555	44	50	145	12
1808	2763	98	2665	1375	1334	2707	42	49	149	13
1809	2969	77	2889	1493	1442	2935	45 (1 had 3)	45	165	21
1810	3016	162	2854	1546	1350	2896	42	54	179	29
1811	2720	159	2561	1363	1250	2613	52	50	169	24
1812	2822	146	2676	1498	1316	2814	48	45	137	43
1813	2568	84	2484	1363	1178	2544	59 (1 had 3)	74	125	62
1814	2601	93	2508	1313	1230	2543	35	86	139	25
1815	3200	125	3075	1586	1524	3110	35	54	172	18
1816	3465	151	3314	1683	1631	3314	38	56	145	19
Totals ..	87841	13451	184390	44721	41076	85797	1445	4920	4646	875

Proportion of Males and Females born, about *Eleven Males to Ten Females*.  
 Children dying in the Hospital, about *One to Seventeen*.  
 Children still born, about *One to Nineteen*.  
 Women having Twins (and more), about *One to Fifty-seven*.  
 Women dying in Child-bed, about *One to Ninety-four*.  
 Women having three and four Children, about *One to 3685*.

*Letter respecting the Puerperal Fever from  
Thomas Alcock, Esq. Member of the Royal Col-  
lege of Surgeons, and Accoucheur to St. James's  
Infirmary.*

DEAR SIR,

4, Piccadilly, Dec. 1818.

In answer to your inquiry respecting the appearance of puerperal fever, I subjoin the following general remarks, which, if you consider them of sufficient interest to appear in your valuable work, are much at your service.

Within the last three months, -in the course of my public and private practice, several cases of illness after parturition have occurred, which generally speaking might be called puerperal fever; but if to fever we annex the idea of increased heat, the name would not correctly apply to each particular instance. Perhaps the term puerperal fever may be somewhat too indiscriminately used, and sometimes without any definite signification. It has been doubted whether any idiopathic fever exist, peculiar to the puerperal state; and as far as my observation has extended, the symptoms of fever have for the most part appeared rather to be symptomatic of inflammation in some internal organ, and have yielded to proper treatment much more speedily than idiopathic fevers.



If the greater part of the various complaints which women in child-bed suffer are in reality inflammations of the uterus, of the intestines, of the peritoneum, &c. would not the pathology and treatment be equally clear in designating the disease by its appropriate name, as by calling it puerperal fever, and considering the essential or pathognomonic derangement as a mere symptom? Doubtless idiopathic fever may take place after child-birth as well as under other circumstances; but I am persuaded it is of much less frequent occurrence than the inflammations of the several viscera.

Of the cases which have occurred lately, call them by what name you please, the symptoms were very various, though mostly indicative of inflammation, and affecting the abdominal and pelvic more frequently than the other viscera: in some the pain and tenderness of the abdomen and hypogastrium were distinct and well marked, in some obscure. Not unfrequently the pains were referred to the back and loins, extending down the thighs:\* in others the principal seat

\* It may seem superfluous to mention that, during the first days after delivery, the vague accounts of some patients might lead to the mistaking of after-pains for those of inflammation. When, as sometimes happens, coagulum has formed in the uterus after the expulsion of the placenta, the distinction will require close attention, as the

of the disease was confined chiefly to the chest, and in a few the head appeared most affected. In some the chest and abdomen suffered simultaneously. In several instances there was extreme depression of mind. The tongue was generally foul, but moist, sometimes a dry brown streak in the centre, the edges remaining moist. There was loss of appetite. The bowels were costive till purgatives were administered, and the excretions were frequently dark and unnatural, till the evacuations became copious. The urine was frequently turbid: the lochia and milk were often suppressed or much diminished in quantity; in some cases the lochial discharge assumed a puriform appearance. The recurrence

intermissions of pain are less distinct. But in mere after-pains the position of the patient is usually upon the side, the motions of the lower limbs are made without much precaution, and though on sudden pressure upon the uterus she complains loudly of pain, yet if the pressure be gradually made, and her attention be directed to another subject, it may be very firmly made without any painful expression of countenance. Whilst in inflammation of the uterus or its appendages the patient almost always takes great precaution in every motion of the trunk or lower limbs; a peculiar though sometimes slight anxiety of countenance exists, greatly increased on pressure upon the affected part, however gradually made or whatever attempt to divert her attention at the moment; there is no perfect intermission of pain. In the spasmodic pains the pulse is but little quickened—in the inflammatory its frequency is generally much increased.—The uneasiness arising from a distended bladder cannot be mistaken by any attentive practitioner, although I have known this symptom greatly overlooked.

of a sanguineous discharge, in the course of the illness, was mostly a favourable symptom. The skin at first was usually dry, but generally became relaxed after depletion had been used; its temperature varied considerably. However various the apparent seat of the disease, the cases all agreed in one leading circumstance, namely, in *great derangement of the sanguiferous system*. The pulse, though sometimes slow before the patient began to complain, was generally much increased in frequency, sometimes from 120, 130, or 140 in the minute to a rapidity not to be distinctly counted: its fulness, hardness, or softness varied so much in different cases, and even in the progress of the same case, that, as in other acute diseases, to have depended on it as a guide would have been fallacious. The pulse, considered with reference to the state of the organs and functions of the body, is a valuable aid; but is much less to be depended on than the concurrence of other pathognomonic symptoms.

The period of attack was irregular, but generally from the second to the seventh day; though I have witnessed clearly marked symptoms of inflammation of the uterus and abdominal viscera before delivery, particularly in those advanced in years at the first labour. In

a considerable proportion there were distinct rigors succeeded by heat and re-action; in others no rigor or chilliness was observed.

In some of the milder cases the exhibition of an emetic, given in nauseating doses, and increased till vomiting was produced, and subsequently given at longer intervals till the bowels were purged, relieved so much as to render the use of the lancet unnecessary; but in the more severe cases, with some exceptions, bleeding was required and was performed with evident relief. Sometimes the depression of all the vital powers is so sudden and overwhelming that depletion cannot be used with a rational prospect of benefit to the patient. Indeed the attack is sometimes so subduing as almost to preclude the hope of recovery under any mode of treatment. Neither are those cases where acute pain exists the most to be feared. Whoever has watched the progress of disease in its worst form in the puerperal state, may have observed the approach of death depicted in the countenance of the sufferer, where every answer to the inquiry if there existed any pain has been in purport, "No,—no pain; but so weak." Nor is this state the mere termination of painful symptoms by mortification described by authors;

it does sometimes occur without any pain during its progress which in this form is usually of short duration. Blood taken from a vein under such circumstances has afforded no relief, nor has it coagulated as is usual; but the red particles settling to the bottom, have left the surface like thin size or extremely weak jelly.

The value of blood-letting, however, is inestimable in cases where the inflammation of any important organ has actually begun, or where the general excitement is so great as to threaten such an occurrence; and when used early and to a sufficient extent, frequently subdues every urgent symptom. Sometimes there is no recurrence of the complaint; but where the indications are clear and the relief from the first bleeding has been decisive, if symptoms of danger return, it is not sufficient that the patient has been bled, the operation must be repeated. In all cases the effect produced, and not the quantity taken, must be the measure of a sufficient bleeding. Sometimes the abstraction of a few ounces of blood will induce syncope and be followed by perfect relief, at other times the quantity must be large before any obvious effect be produced either on the painful symptoms or the pulse. I need not observe,



that if the blood be taken in a full stream, and, if admissible, in the erect or sitting posture, a much less quantity will suffice than under an opposite state.

I would earnestly recommend to those entrusted with the care of puerperal patients requiring the use of the lancet, not to content themselves with *directing* its use, but to see it carried into effect. It is impracticable to determine, without reference to the changes which may occur during the operation, what quantity shall be just sufficient and in no degree excessive; even the life of a patient may sometimes depend on the apparently trifling circumstance of the manner of performing this simple operation. A timidly made puncture, and a small stream may produce a sufficiency of blood to be shown at the next visit of the practitioner, but without affording any relief; whilst a much less quantity taken freely will not only relieve, but, by the appearance of the blood, will either confirm the treatment or afford useful indications for the further management of the case.

Purging will be found a valuable auxiliary, but as far as my observation has extended, I

have not witnessed so much relief from drastic as from mild evacuants. Some cases, from the extreme torpor of the bowels, require the more drastic preparations and in liberal doses, which in a state of health the patient would be unable to bear; but I have often remarked that those cases in which the purging was excessive, whether it occurred spontaneously or succeeded the exhibition of strong medicines, were less manageable than others, and when recovery took place it was much more tardy than under other circumstances.

The well-known relation between the general surface and the internal organs will suggest principles of treatment, which the attentive practitioner will appreciate and readily carry into effect. The warm-bath, though a valuable adjunct on some occasions, is attended with too much fatigue to the patient to be frequently employed. I have used with evident relief fomentations to the abdomen and the whole of the lower extremities, which may be effected without fatigue, and may be longer continued or oftener repeated than the bath. The necessity of regulated diet, temperature, and general management will be obvious.

From the preceding observations it will readily be inferred, that as the seat of the diseases occurring in puerperal patients has varied, so also have the morbid appearances discovered after death. The brain has been found excessively loaded with dark blood, as have been the lungs, whilst the secretion from the mucous membrane of the trachea and bronchia, which was much increased in vascularity, has been so copious as to produce death by suffocation. In such cases the abdominal and pelvic viscera exhibited no considerable traces of disease. In some, effused serum has been found in the chest in considerable quantity. In others the traces of inflammation of the small intestines and peritoneum have been clear and well marked, by adhesions, effusions of coagulable lymph or serum, and by great increase of vascularity. Sometimes suppurations have been found in the cellular membrane adjoining the rectum; and where the inflammation of the uterus and contiguous viscera has been well marked, I have observed, in addition to the usual appearance of inflamed intestines, a quantity of pus in the lower part of the abdomen, and in the pelvis surrounding the uterus and appendages. Pus in the sinuses of the uterus

is not unfrequent: the appendages usually correspond to the state of the uterus. Though the peritoneal surface of the intestines more frequently suffers, I have known the contrary happen, and whilst the external surface of the intestines scarcely exhibited any indication of disease, the mucous membrane through a great portion of its extent has been inflamed, and in parts proceeding to a state of erosion, but in these cases purging had been excessive.

I remain,

Dear Sir,

Yours very truly,

THOMAS ALCOCK.

*To Dr. Armstrong.*

THE END.













